THE CARDED

Infantry

SCHOOL QUARTERLY

the magazine for Infantrymen

april 1954

the infantry school

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volume 44 number 2

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Cover designed by Cpl Loring P. Eutemy

Published quarterly by The Infantry School, Fort Benning, Ga. Entered as second-class matter June 11, 1948, at the Post Office, Columbus, Ga., under the Act of March 3, 1879. Subscription rates: 1 year, $2.50; 2 years, $4.75; 3 years, $7.00. Four copies a year. Foreign subscribers add $.25 yearly for postage. Address subscription applications to THE BOOK DEPARTMENT, THE INFANTRY SCHOOL, FORT BENNING, GA.

LETTERS TO THE EDITOR

THE QUARTERLY GOES TO SCHOOL!

Dear Sir:

I am preparing a series of classes on communications for the officers and noncommissioned officers of the 132nd Infantry Regiment of the Illinois National Guard. At present, I am preparing a color pamphlet (10-15 pages) entitled "You and Communications." It is designed not only to orient the class, but will serve as a useful guide for those in staff jobs or with line units.

To properly prepare this, I need the July 1953 copy of THE INFANTRY SCHOOL QUARTERLY which has an article titled "New Look in Radios." If possible, I'd like any other issue (51-52) which might contain an article on communications.

My first class begins 15 January. Could you please air mail the material.

Edward Potaniec
2916 South Cicero Ave.
Cicero, Illinois

Needless to say, Mr. Potaniec's request received immediate attention and the desired material was promptly mailed to him. We would like to point out that QUARTERLY *articles serve a dual purpose. They provide not only valuable professional information but, in almost all cases, can be used as the basis for a conference.*

Here are a few articles on communication that have been published in the QUARTERLY:

Communications on Extended Frontages—April 1951

Emergency Switchboard—January 1952

The Wiremobile—July 1952

The New Counterfire Platoon—April 1953

New Look In Radios—July 1953

— Editor

JANUARY COVER?

Dear Sir:

. . . the picture of General Ridgway . . . is it a photograph or a painting?

Pvt Robert E. Goodling
F Company, ISD
Fort Benning, Georgia

A painting done in "casein" by Cpl Richard Lubey. The original now hangs in General Ridgway's office in the Pentagon. — Editor.

IT'S AN IDEA!

Dear Sir:

While thumbing through some old copies of THE QUARTERLY the thought occurred to me (as it must have occurred to many others) that a binder of some sort, to be used to store old issues, would be a big help. It would also help if such binders were made available with an index of the copies it contained.

Also, would it be possible to publish a yearly summary of all major changes within the Infantry?

Your publication is of great value to National Guard unit commanders. It really keeps us informed.

Edward T. Negrelli
Capt, Infantry
Burroughs Lane
Deep River, Conn.

Here are several good ideas. We hope that in publishing your letter we will be able to determine whether sufficient readers are interested in your first idea to eco-

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nomically justify the production of such a binder and index.

With reference to your second suggestion, over a period of one year our feature "What's New" will keep you abreast of all changes within the Infantry.

— Editor

WHAT'S NEW ON THE BORDER?

Dear Sir:

. . . decorative border on feature "What's New!" seems contrived. Who died?

William Hartley
Captain
Hoyclo Road
N. Stanford, Conn.

We're glad to say that the offending border dies with this issue. The July issue will have a real face lifting. — Editor.

PLEASE!

Dear Sir:

Every day I get at least one letter from an irate reader who asks: "Why is it I get my bill (or expiration notice) but haven't received the last issue of the QUARTERLY?"

A good question!

Let's face it. Infantrymen are constantly moving to parts unknown (to us). All too often they fail to send us their change of address.

Here are the facts. Magazines are mailed second class. Second class mail is not forwarded by the postal authorities. Bills and expiration notices are mailed first class. First class mail will follow a subscriber like a bloodhound.

Won't you please tell our subscribers to let us know each change of address. A subscriber is entitled to each issue but if he fails to keep his address file up to date, how can we forward his returned issues?

We not only want to keep subscribers happy, but would also like to clear my office of a small mountain of returned issues. Please!

Mrs. C. J. Nelson
Chief, Circulation Dept.
INFANTRY SCHOOL QUARTERLY
Fort Benning, Georgia

Hmmm! Wonder how this got here? In any case we concur with the above sentiments. Keep us informed of your whereabouts and your issues will arrive on time, every time. — Editor.

A FEATURE WITH A FUTURE!

Dear Sir:

I would like to take time out to say that the addition of the Quiz in THE QUARTERLY is a splendid idea. I use it to test the knowledge of my men and consequently they benefit from their mistakes. The variation in the subject matter makes it possible to gain information from numerous fields.

Harry Rivero
2nd Lt, Infantry
Hdqs and Hdqs Co,
135th Inf. Regt.
Camp Rucker, Alabama

Address all letters to: The Editor, INFANTRY SCHOOL QUARTERLY, Publications and Visual Aids Office, The Infantry School, Fort Benning, Georgia.

Editor's Page

Dear Reader:

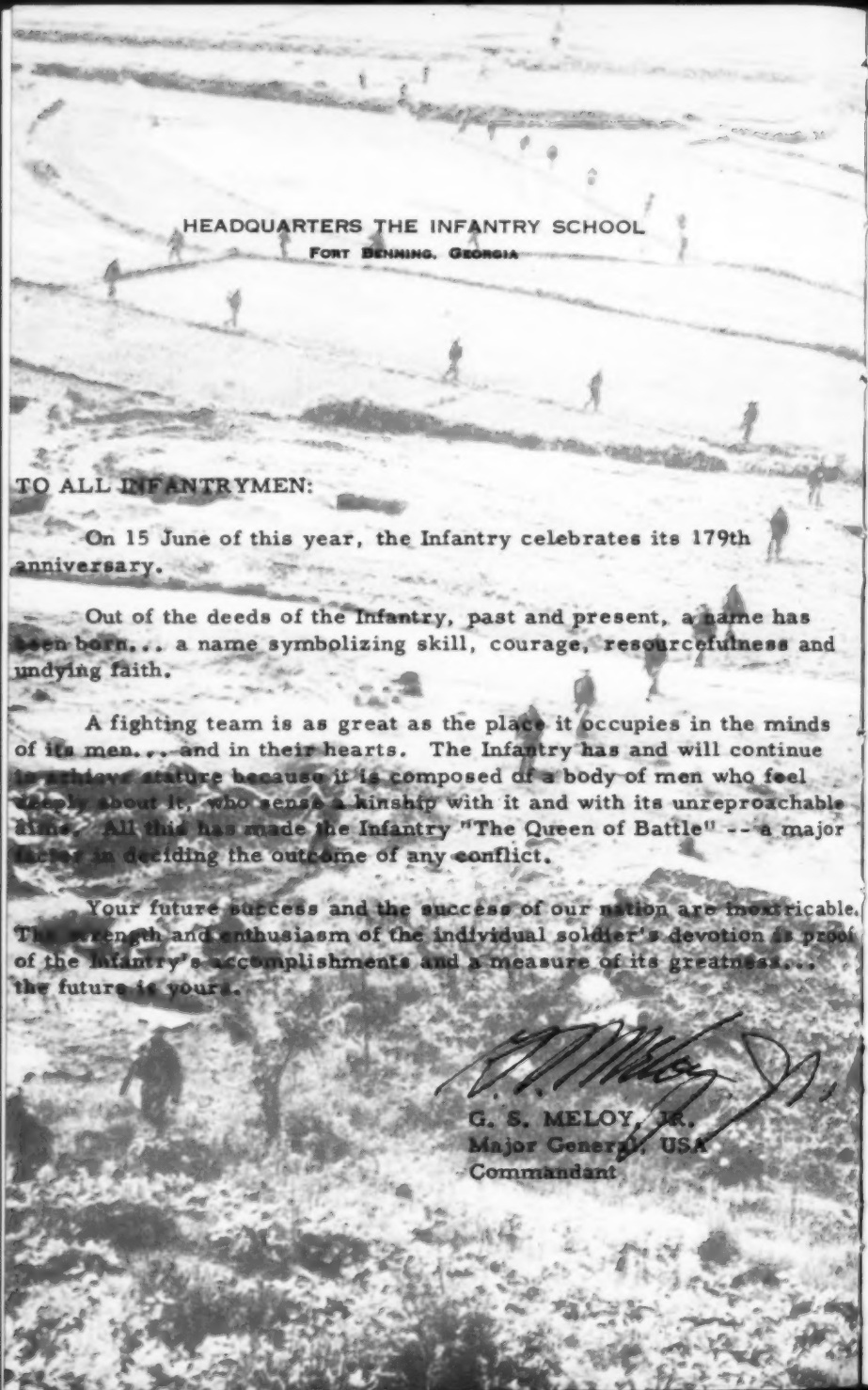
In 1945 the world was shaken by the first atomic explosion of history. Eight years later, at Yucca Flats, Nevada, Infantrymen were participating in an atomic exercise. The atom bomb, one of the most destructive of all weapons known to man, is already being adapted to the uses of the foot soldier.

The development of every new weapon inevitably raises predictions that the Infantry will soon be obsolete. And just as inevitably, the exact opposite turns out to be true. The story of modern weapons is the story of the Infantryman. If the latest development helps support the doughboy, it gains a place in the arsenal of the nation. If not, it soon disappears.

And the Infantryman, once a single-minded spear-carrier or sword-wielder, is now a versatile technician. Just as his tools have become more varied and complex, so have his skills. The machine gun, originally a horse-drawn artillery weapon; the mortar, once a monstrous device used in sieges; the rocket, still thought of by some as a plaything out of science-fiction; and the recoilless rifle, the Infantry's "personal artillery," first used in World War II — all are as familiar to the Infantryman as his trusted rifle, bayonet and grenade.

It is a common maxim today that wars are won by the foot soldier, who destroys the enemy, and takes and holds ground. It is equally true that every weapon, whether a .30 caliber bullet or an atomic bomb, depends for its use and existence on its ability to help that foot soldier win his battle.

The Editor



HEADQUARTERS THE INFANTRY SCHOOL
FORT BENNING, GEORGIA

TO ALL INFANTRYMEN:

On 15 June of this year, the Infantry celebrates its 179th anniversary.

Out of the deeds of the Infantry, past and present, a name has been born... a name symbolizing skill, courage, resourcefulness and undying faith.

A fighting team is as great as the place it occupies in the minds of its men... and in their hearts. The Infantry has and will continue to achieve stature because it is composed of a body of men who feel deeply about it, who sense a kinship with it and with its unreproachable aims. All this has made the Infantry "The Queen of Battle" -- a major factor in deciding the outcome of any conflict.

Your future success and the success of our nation are inextricable. The strength and enthusiasm of the individual soldier's devotion is proof of the Infantry's accomplishments and a measure of its greatness... the future is yours.

G. S. MELOY, JR.
Major General, USA
Commandant

back door ATTACK

. . . have we forgotten the value of infiltration? This combat Infantryman says the natural qualities of initiative and aggressiveness possessed by the American soldier give this method of attack great practicability.

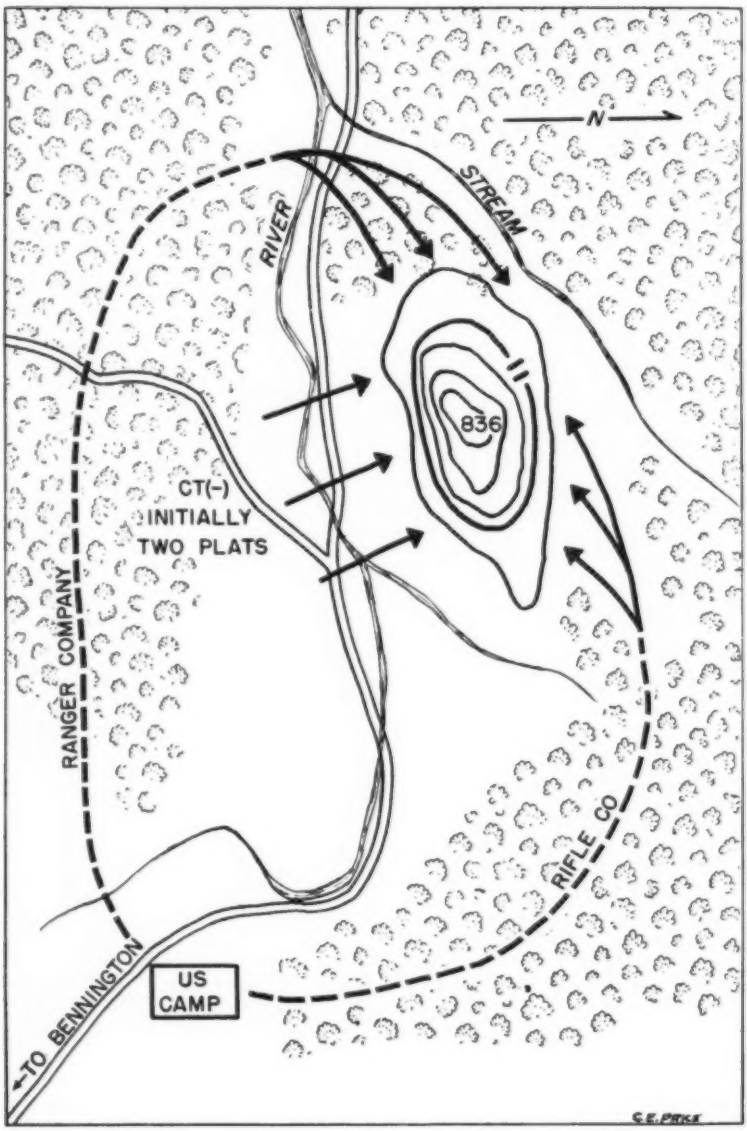
Lt William Strobridge

THE enemy was entrenched on Hill 863. At his CP, a little more than a mile to the east, the American commander studied the situation. Finally he decided that, rather than wait to be attacked, he would take the initiative and destroy the enemy the next day.

The enemy had a good defensive position on the steep wooded hill. To their front ran a twenty-foot wide river and on either flank was a small stream. Both the river and the streams could be forded. An enemy battalion was deployed on the hill (Figure 1), supported by two field pieces, which were placed for direct fire. The enemy was apparently waiting for the heavy rainfall to stop.

The mission of the American combat team was to protect a supply base lying six miles to the east. The American commander knew that his troops were untried in battle, while the enemy had the experience of several campaigns behind them.

He decided that a simple frontal attack would be too costly. Instead, he would infiltrate a strong force to the enemy rear for a coordinated assault. A ranger company would go around the enemy's right flank and a rifle company around the left. Two platoons would, meanwhile, provide a distraction on the enemy's front. The remainder of the combat team would be held for the main attack. The signal to begin would be the


N
STREAM
RIVER
836
CT(-)
INITIALLY
TWO PLATS
RANGER COMPANY
RIFLE CO
US
CAMP
TO BENNINGTON
C.E. PRICE

sound of firing from the infiltrators, who would open up as soon as they were in position.

By noon on the 16th, the rain had stopped. The sun came through, and the earth and forest steamed. With their movement obscured by the rising vapors, the two companies moved out, both in column, advancing stealthily and taking long detours to avoid the open ground around Hill 863. To be sure of preserving silence, they had no definite rate of advance. To distract the enemy from the front, the two platoons began an attack, then withdrew under enemy artillery fire.

By midafternoon the enemy position was surrounded. An enemy outpost, it was later revealed, had reported the noise of leaves being trampled underfoot, but this evidently caused no concern, because the enemy commander did nothing about it.

At 1500 the rifle company opened fire. On hearing the signal, the ranger company attacked. As the enemy wheeled to meet the surprise attack, the main body of the combat team charged up the steep hill and captured the two field pieces that had harassed them earlier. The battle soon broke down into a series of small fire fights and assaults. After two hours of hand-to-hand fighting, two enemy platoons broke out of the battle and escaped north. The enemy lost 207 men killed and 658 prisoners. The threat to the American supply base had been eliminated.

Korea in 1951? France in 1944? No, this battle took place near Bennington on the New York-Vermont border in 1777. The enemy—British Redcoats and Hessians. The American Army learned the art of battle infiltration in its earliest encounters; but it was not until Korea, when enemy infiltrators reached our CP's and cut MSR's, did we reawaken to both the dangers and the great possibilities of infiltration.

To put it briefly, infiltration is the art of hitting the enemy "where we ain't." At Bennington, the two companies infiltrated to the British rear while the enemy girded for a frontal assault. The hill was taken in a coordinated attack with the rest of the American forces.

Weather and terrain greatly influence infiltration. It is best accomplished over terrain that provides maximum cover and concealment under conditions of limited visibility. A river leading into enemy lines is often a good route at night. In the Bennington engagement the woods and the vapor rising from the wet grass and leaves helped the two columns remain undetected.

The size of the infiltrating force is determined by the mission. Since the mission called for a strong attack on the enemy's rear, two companies were used at Bennington. Had the mission been merely to harass, a platoon might have sufficed. To secure a prisoner, a squad is sometimes sufficient. This, of course, all depends upon the enemy and the nature of his defenses.

Control should be given to the leaders of the infiltrating units. These leaders select their own routes and formations, and control the rate of advance. Silence is much more important than speed. Communications must be kept to a minimum until the attack is

launched. The importance of silence should be impressed upon every man in the unit. The infiltrators at Bennington took three hours to cover between two and three miles, and even then they were heard by an enemy outpost.

Secrecy is vital to the success of the mission. Rifles must be locked and a check made for loose equipment that could give a death-inviting rattle. Faces should be darkened and shiny equipment dulled.

The initial assembly area of the infiltrating unit should be within friendly lines. A point should be selected, at which the unit will pass through the lines. Then the friendly unit holding this point should be notified of the time at which the infiltrators will pass through.

In order to maintain direction, it is important for the leader of the infiltrators to mark in his mind landmarks along his route. He also should select rallying points, in case the unit becomes scattered. The final assembly area should be near a prominent landmark. He can at times even use guides to lead the infiltrators to their objective. A column formation is usually used to ensure good control. Each group should, of course, provide its own security. Orders must be explained in detail and repeated, if necessary, until they are completely understood by every man. The final assembly area and attack position should, of course, be reconnoitered before the unit enters it.

The principles of infiltration have not changed. The results of Bennington can certainly be equalled if not surpassed by the better trained, better equipped Infantry of 1953. The natural qualities of initiative and aggressiveness possessed by the American soldier then as today give this method of attack great practicability.

Under conditions of poor visibility and difficult terrain, a secret movement to the enemy's rear and an assault from this unexpected quarter in a coordinated attack with the front can be extremely successful. The technique served us well in 1777 and continues to serve us, when we remember its value — 176 years later.

There is no studying on the battlefield. It is then simply a case of doing what is possible to make use of what one knows. And in order to make a little possible one must know much.

— Foch

command the trigger

Lt Arthur R. Underwood, Jr.

COURAGE . . . Endurance . . . Discipline . . . Organization . . . Sound Physical Condition . . . and Leadership — these are the qualities which have aided the American Infantryman to win battles, large and small, from the Revolutionary War to the recent Korean conflict, and these qualities are essential now as ever to an army which hopes to achieve great successes.

Yet, under existing conditions of war, all these qualities become servants to expert marksmanship at the supreme moment of actual conflict with the enemy.

However steadily and rapidly troops may have been trained to move, and however boldly and intelligently they may have been taught to take up positions, unless they are able to use their rifles with great accuracy . . . the battle will surely be lost.

Our Infantry rifleman must be the best shot in the world. Our success in combat will be traced directly to him and his success directly to the rifle marksmanship training he receives.

Our rifle marksmanship training today is a far-cry from the Revolutionary period when targets were small pieces of paper tacked on fence posts and firing was done at random anywhere from 15 to 50 yards.

Now, our rifle marksmanship training is systematical, efficient and flexible so as to produce an accurate shot. But there have been many proposals for partial revisions and even complete changes in the current training program. Some of these proposals are worth consideration and are under study at the present time. Others are radical and have many obvious weaknesses.

Let's consider some of these proposed changes.

Here is one proposal: **Let the men train themselves.**

This proposal takes the following form:

a. Trainees would be given six hours of instruction in sight alignment (the proper relationship between the front and rear sights), sight picture, sling adjustment, trigger squeeze, loading and unloading.

b. Trainees would then go to a range equipped with targets corresponding in size and shape to typical battlefield targets.

c. One officer with a noncom per 20 men would supervise the firing.

d. Each trainee using as much ammunition as he desires takes his place on the firing line.

e. On signal each trainee would fire at targets appearing to his front at ranges up to 350 yards.

f. After the command "cease fire" all targets would be scored. The number of hits per group of 20 trainees would then be announced.

It is felt by those proposing this idea (or system) that the group getting the greatest percentage of hits would then explain to those individuals with fewer hits how to sight and how to take "Kentucky Windage."

Continuing further we find that the noncoms in charge of each group should select the 10 per cent they felt were the best shots. These men would be designated experts.

The balance of the men would fire until it was believed they were proficient. There would not be, of course, any known distance firing as we now know it.

Now let's examine this suggestion in greater detail. Can a trainee tell when he has hit a target? It's doubtful. Experience with green riflemen indicates that a target might just as easily have been hit by a man nine stations to the right or left.

Can a green soldier teach another green soldier (who has heard and taken the blast of a rifle for the first time) how to fire properly? Certainly not unless he was a highly qualified marksman in civilian life . . . and even then it is not likely. It is doubtful that each man possesses the ability to instantly analyze his technique (or even discover that he has one) and at the same time organize his thoughts sufficiently rapidly to teach another man.

How could we determine a man's proficiency? There is no provision for true scoring. No test for accuracy. No man could then be an expert in the literal sense of the word.

And isn't it true that officers and noncommissioned officers would be relieved of all responsibility for seeing that their men were properly qualified?

The proponents of this system say that it would eliminate the present system of chance and collusion. Most authorities will agree that a man who makes expert on a **properly supervised** known-distance range leaves little to chance. By the same token, a **properly supervised** pit scoring system eliminates the possibility of collusion. With pit scoring an accurate picture of the firer's ability can be obtained and until a completely successful electrically operated target and scoring system is available, the present system appears to be the best method.

Here's a question that's often asked: **Can we eliminate known-distance firing?**

Those who ask this question generally commence by prefacing it with the thought that under our present system men fire at fixed bull's eye targets during training. The rub, they say, is that when a

Under existing conditions of war, all the qualities necessary of a soldier become servants to expert marksmanship at the supreme moment of actual conflict . . .

man enters combat he fires at targets that move and vary in size.

These same folk would eliminate all known-distance firing and start the green rifleman's training on close-in, fast-moving targets at varied ranges. Here, too, it is suggested there be a minimum of or no preliminary rifle instruction.

In analyzing this question the advocates of such a system have overlooked the fact that known-distance firing is designed to determine not only the degree of proficiency attained, but it provides the individual with the knowledge and fundamentals which must be mastered in order to accurately fire the rifle at various ranges and under varying wind conditions. These steps of training are equally as mandatory and indispensable to a combat rifleman as is the knowledge of mathematics to the engineer, and consequently cannot be omitted.

The use of fast moving targets at close range is an excellent idea. Certainly this phase of the proposal deserves consideration and ultimate employment on quick fire and field target firing courses. At the present time the Armed Forces are developing a moving target that will pop up for a few seconds as it moves and drop when hit.

Still another question: **Is there any substitute for a round bull's eye?**

To answer this question objectively we must compare our standard target (Figure 1a) with at least three of varying designs such as those shown in Figures 1b, 1c and 1d.

Assume that we have four equally qualified riflemen each firing on one of the targets shown. Each man fires one round and achieves a center bull at Point A on his target. This would be worth 5 for each firer.

We will assume that on the second round each man hits his target at Point B. On the standard (Figure 1a) and triangle (Figure 1c) targets each firer would get 4. On the rectangle (Figure 1b) and elliptical (Figure 1d) targets each would receive 5.

A third shot by each man strikes Point C on each target, approximately eight inches left of the target center. What's the result? The triangle (Figure 1c) produces a 3 while the other three (Figures 1a, 1b and 1d) would give a 4.

To properly measure accuracy we must give credit to the firer in direct relation to the nearness of his hit to the center of the target. A soldier firing eight inches from the target center should receive the same credit regardless of whether he fires high, low or to the right or left. The standard target (round bull's eye) is the only one which provides an equal distance circular concept.

Figure 2a shows another idea related to bull's eyes that has been advanced. Note that it is in reality a half moon bull's eye. Tests show that to a firer's eye it loses its shape at longer ranges and appears as an inverted crescent (Figure 2b). The tests also revealed that by the nature of its shape the half-moon bull's eye does not give the firer one definite point upon which to place the front sight blade such as the

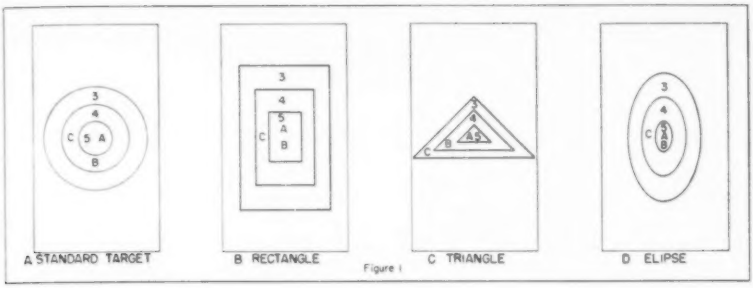


Figure 1

point of tangency at 6 o'clock on the conventional round bull's eye.

All of this discussion so far substantiates the value of our present rifle marksmanship training. This doesn't mean that anyone is resting on past laurels. The Infantry School is continuously studying methods and equipment designed to improve the rifleman's training and maintain accurate records of all tests. When test results merit it, changes are made.

Let's depart now from the purely training aspect of marksmanship and consider a few questions and proposals related to sights, triggers and the rifle stock.

Here's the first question: **Why don't we use notch-type sights (open sight) instead of a peep sight?**

We shall start by saying that the American Infantryman is entitled to the best sight available. Notch-type sights are the most popular for civilian hunting rifles. Why? Because they're cheaper than peep sights. It's also true that many European Armies use the notch-type sight because they are cheaper to manufacture.

Let's compare the two sights. Look at Figure 3a which shows the correct sight picture for a peep sight. Our men are taught to focus the eye on the top of the sight

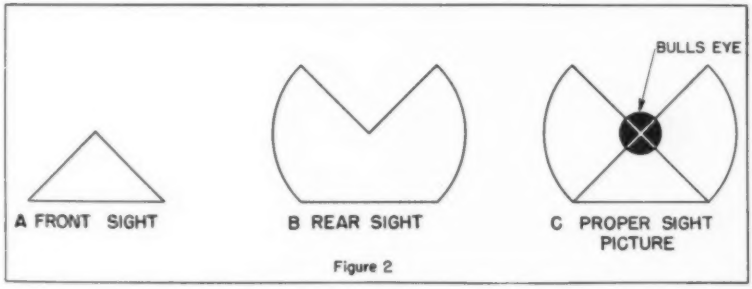


Figure 2

blade. The top of the front sight blade is centered in the aperture to give proper sight alignment. This is a perfectly natural tendency as when viewing any object through a circular hole, the object is unconsciously centered.

When using the notch-type sight (Figure 3b) the firer must place the top of the front sight blade even with the flat upper shoulders of the notch and centered within the notch. This, we find, is considerably more difficult to achieve than is correct sight alignment using a peep sight.

In firing on a moving target the notch-type sight obscures everything below the shoulders of the notch (horizontal). For example: An enemy running up a hill away from the firer would be screened from view if a lead were taken. The opposite would be true if the peep sight is used since it provides all-round visibility except behind the front sight blade.

While on the subject of sights here's a proposal that makes use of the Vernier acuity principle*. In this variation the front sight resembles an inverted V (Figure 4a) and the rear sight a V (Figure 4b).

To use such sights the firer moves the rear sight backward or forward on a fixed ramp or slide until both sights are most clearly in focus. He then aligns the front and rear sights so that an "X" is formed (see Figure 4c) and adjusts the rifle until the center of the "X" is on the center of the bull's eye or other target.

For further information on rifle marksmanship read the following articles which have appeared in The Infantry School Quarterly:

The New Rifle Marksmanship Course—Oct. 1949.

WANTED: Better Marksmen —Oct. 1950.

Small Arms Fire Course—July 1952.

Battle Sight Zero—July 1952.

It's Either a Good Squeeze or a Miss—Oct. 1952.

Let's Fire at Night—Jan. 1953.

Marksmanship—July 1953.

A Real Convincer—Oct. 1953.

Operation Moonlight — Jan. 1954.

* * *

An excellent history of the development of the M1 Rifle appeared in the July 1953 issue under the title, "From Musket to M1."

The edges of the sights facing the firer should be painted white to assure easy visual alignment. This sight was used experimentally by groups of "distinguished" riflemen and also by groups of individuals with limited firing experience. Both groups had difficulty in obtaining a clear sight picture. Complaints were made of having to constantly

* The Vernier acuity principle is briefly the ability to align two broken lines to form one solid line.

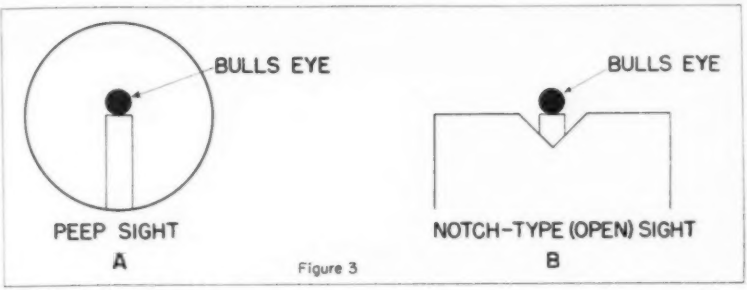


Figure 3

check and focus the eye on three different points—the target, the rear sight and the front sight. Each tended to run the rear sight as far forward as possible and some had difficulty in maintaining correct sight alignment. Upon correcting sight alignment they were no longer on the target. When they shifted back on the target they had lost the correct sight alignment.

The sight radius of this proposed sight would be approximately nine inches or about one-third that of the sight radius of the M1 rifle. This means that an error in sight alignment of 1/10 inch at 200 yards would produce an error in the target area at least three times that of the M1 Rifle* or over six feet from the aiming point.

This sight was designed primarily for use with moving targets. As yet no conclusive tests have been made with it. It may prove to be of great value in this type of firing.

And now, let's consider a question sometimes asked about triggers. It is: **Do we need a pre-set trigger?**

First, what precisely is meant by "pre-set?" A pre-set or "hair" trig-

* An error in sight alignment of 1/10 of an inch on the M1 Rifle on a known-distance range of 200 yards would produce an error of 25.7 inches on the target.

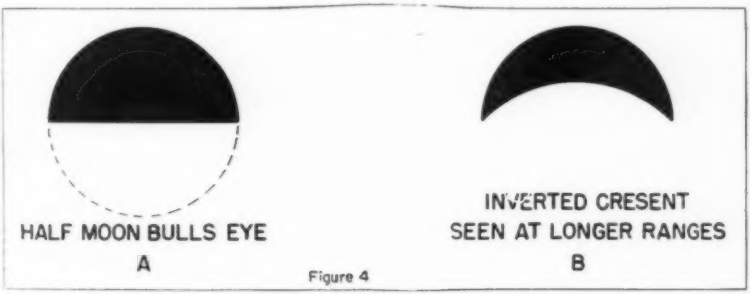


Figure 4

ger requires a pressure of between two ounces to 24 ounces to cause the hammer to fall.

The M1 Rifle requires a pressure of from 5 to 10 pounds. It takes no imagination to see that a pressure of the pre-set variety would not only be a menace to safety during training (or in combat for that matter), but would eliminate the "surprise shot" so necessary to reduce to a minimum the green firer's tendency to jerk the trigger or to flinch.

The pre-set trigger, if used in training, would require the new firer to use techniques that experts acquire only after years of practice. Those who have been range officers in training divisions or who have been in charge of pit details certainly wouldn't welcome the adoption of a pre-set trigger.

Next, we come to a question that is frequently asked: **Why aren't rifle stocks made to size?***

As a matter of fact, The Infantry School has recently conducted various tests using what amounts to a made-to-order rifle stock. A standard stock was cut back to a length of 12 inches. One-inch metal "extenders" were constructed that could be added to the butt of the 12-inch stock to make an extension to 13 or 14 inches as desired by the firer. This stock meets the needs of the man with short, normal or long arms.

The adjustable stock permitted many men to assume good firing positions more easily than they could with the present one length stock. The test results were altogether favorable. The adjustable stock is still under consideration.

* * *

Without the rifle marksmanship training methods used today there would be no uniformly qualified Infantry riflemen. New ideas for improving this training and the M1 Rifle are constantly being tested. Those which prove to be of value and directly aid the inexperienced man to more rapidly become a qualified rifleman are adopted. But we must all keep in mind that no other qualities will make up for inferior shooting. Regardless of how brave our men may be, however well drilled, well set-up and disciplined they may be, however capable they may be of enduring great fatigue and regardless of how well they may be able to traverse difficult terrain and withstand hardships — admirable and desirable as such qualities may be — they will be valueless as soldiers unless they are experts in the use of the Infantry's most important individual weapon — the rifle.

Negotiations without arms are like music books without instruments.

— Frederick the Great

Quiz

ANSWER the following questions to determine whether you are a bolo, recruit, marksman, sharpshooter, or expert.

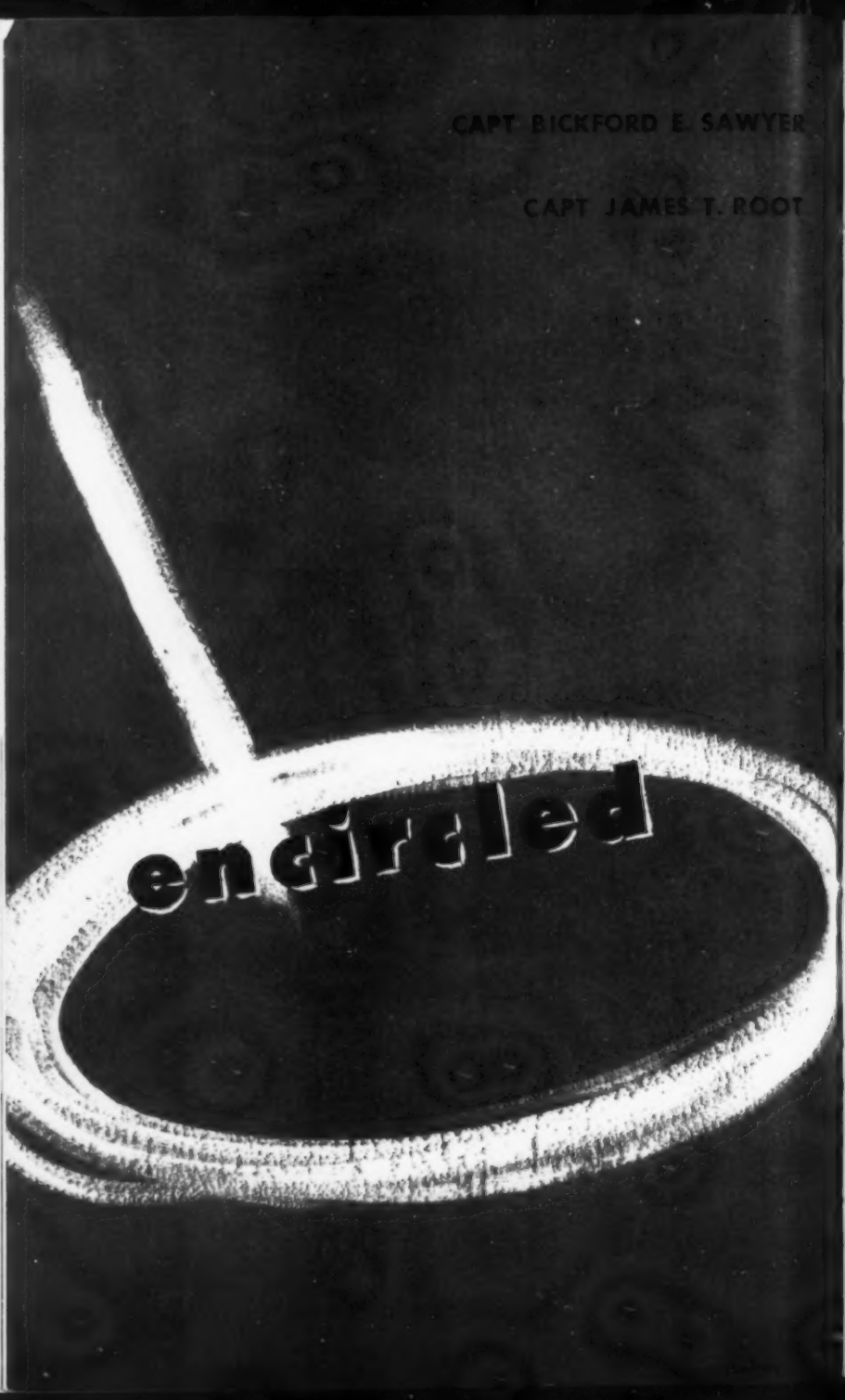
QUESTIONS:

1. What is the maximum range of the 3.5-inch rocket launcher?
   (10 points)
2. How many public address sets are authorized for an Infantry Regiment?
   (10 points)
3. What are the three entries the company commander is authorized to make in the line of duty section of the Individual Sick Slip?
   (10 points)
4. Why are limiting points used?
   (10 points)
5. A source of combat intelligence is the actual origin of the information obtained. An agency, however, is the means used to obtain this information. Name three potential sources of combat intelligence and three agencies usually employed to obtain information?
   (15 points)
6. The 4.2-inch mortars of a heavy mortar platoon are normally laid parallel in the desired direction of fire by which of the methods listed below?
   (a) The direct alignment method
   (b) The M10 plotting board method.
   (c) The compass-mil method.
   (d) Using an aiming circle to reciprocally lay the mortars
   (10 points)
7. What are the three primary missions of the tank battalion, 90mm gun, Infantry Division, in the defense?
   (10 points)
8. The primary mission of the 75mm recoilless rifle is to provide which one of the following?
   (a) Direct fire at area targets.
   (b) Indirect fire at area targets.
   (c) Indirect fire at point targets.
   (d) Supplementary aid to artillery.
   (10 points)
9. In combat operations items of supply are classified into five classes. Briefly, describe each class and give an example of each.
   (2 points each)
10. What is the approximate weight of M47 tank?
    (5 points)

Turn to page 55 to see how you rate. Look for another QUARTERLY Quiz in the next issue.

CAPT BICKFORD E. SAWYER

CAPT JAMES T. ROOT



CARDED

THE LAST REPORT came in just after dawn. The S3, a grim-faced major, ran up to the jeep parked at the side of the road. The regimental commander, slouched in the seat, his face lined with fatigue, looked up, immediately alert.

"Here's Lt Col Robert's message, sir. It took a few minutes to decode it," the S3 said.

"OK," snapped the colonel, already preoccupied reading it.

The S3 stood expectantly waiting some sign from the colonel, whose drawn face revealed nothing, but when he finished reading the message, he folded it methodically and looked off into space.

At last he spoke to the S3. "It's about what I expected," the regimental commander said, "but I had hoped the 1st Battalion had somehow gotten out of this mess."

The S3 studied the message. It read: ONLY ROAD OUT IS CUT. BELIEVE WE ARE SURROUNDED. HELP URGENTLY NEEDED. SIGNED ROBERTS, 1ST BN CO.

"Simpson," the colonel said, glancing at his driver, "get me division on the radio. We'll see what can be done."

* * *

Nearly five miles to the east, Lt Col "Bull" Roberts, his large muscular face contorted with a puzzled frown, stood peering at a small map tacked on the wall of a Korean house. The 1st Battalion commander had gathered his S3, S2 and several enlisted men around him as he traced the outline of a perimeter defense on the map.

Colonel Roberts turned to his S3.

The message read:

ONLY ROAD OUT IS CUT. BELIEVE WE ARE SURROUNDED. HELP URGENTLY NEEDED. SIGNED ROBERTS, 1ST BN CO.

The regimental commander had hoped they had somehow gotten out . . . but they were encircled, and there was nothing he could do.

"There's what I want, Perry. Notify the companies about the new lines. Tell Charlie Company that I want them in their new positions within 30 minutes. We don't have any time to waste. And get that tank platoon leader up here right away."

"Yes, sir," the S3 answered, "I'll get right on it."

The colonel looked at the solemn face of his young S2, Lieutenant Frick, and smiled. Frick had been an outstanding rifle platoon leader three months ago, and was, the colonel thought, an equally good S2.

"Frick, I have a real job for you. I want to know where the Commies are, but I don't want them to know that we are trying to find them. Sneak two patrols along Stream 102. Have one go upstream and the other go downstream. Make them two-man patrols. Take the four best men in your section for the job. Figure out the routes. Know exactly how far you're going to send them. Tell them specifically what to look for. When your plan is firmed up, let me know."

The colonel paused—"And Frick, I want those patrols ready to move out in 30 minutes. Get all the information you can from the companies. We've got to know what's going on in front of them."

The colonel strolled restlessly around the house that was being used as a temporary CP. He walked to the doorway. His eyes scanned the destroyed houses that had once been part of a Korean village. The acrid smell of the smoldering ruins seeped into his nostrils. He wondered if his S1 and cooks, sent back last night with the kitchen and baggage trucks, had gotten away safely. And then, turning his thoughts back to the problem at hand, he tried to sort the pieces of misfortune that had ended with his battalion being surrounded by the enemy.

"Encircled!" he said aloud. "Damn it!"

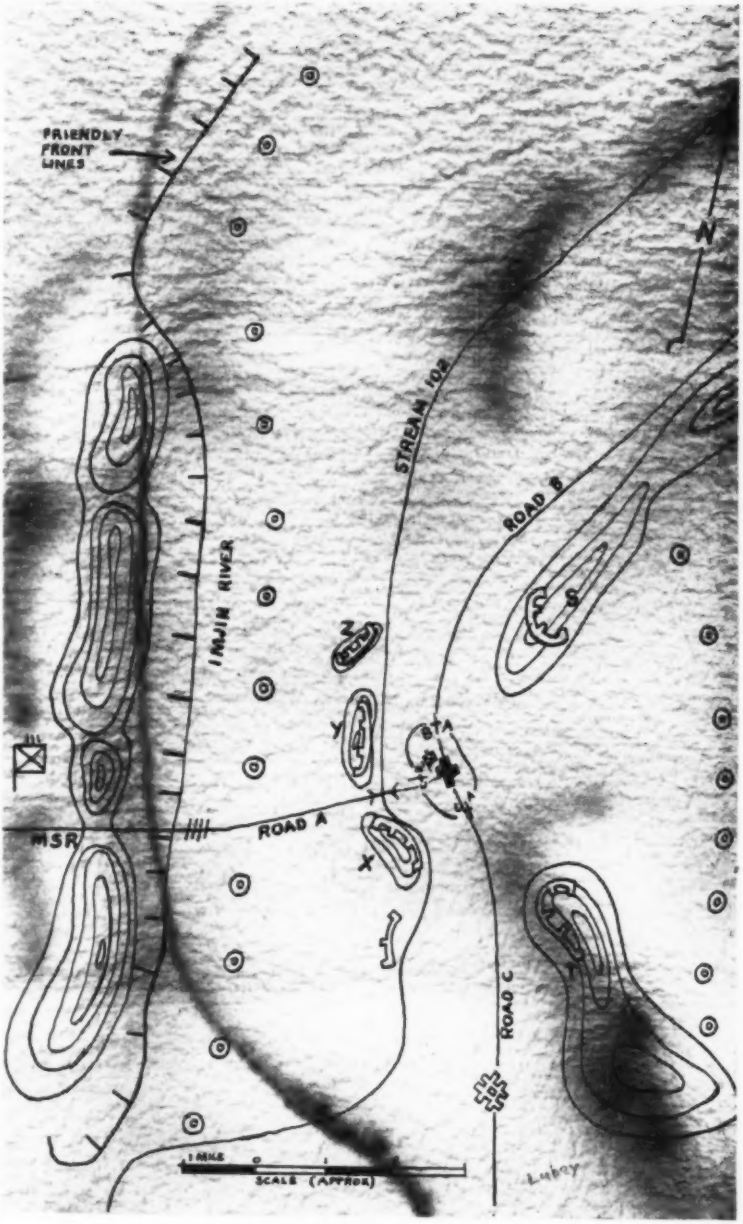
His mind jumped to last night's battle. His battalion had suffered relatively few casualties compared with the hundreds of enemy dead scattered around the perimeter. The Commies wanted this village for its important road net and had fought persistently but futilely all night to get it. He was rightfully proud of his men.

Within the 30 minute time limit he had established as the most critical period of his defense, much had been done. A message was sent to the regimental CP requesting more ammunition and food as well as helicopters to take out the wounded. A dug-in CP was nearly finished. Tanks were moved to block the three roads (Map A, roads A, B and C) leading into the battalion perimeter.

Except for occasional mortar and artillery rounds coming into the perimeter from the east, the enemy had been quiet. The colonel suspected they were consolidating their positions . . . drawing the ring around him even tighter.

The P & A platoon placed the last sand bags around the front of

Map A shows the general terrain situation and the position of Colonel Robert's surrounded battalion.


FRIENDLY FRONT LINES
N
STREAM 102
ROAD B
IMJIN RIVER
Z
Y
614
614A
MSR
ROAD A
X
ROAD C
1 MILE
0
1
SCALE (APPROX)
Luby

the CP as the S2 approached accompanied by four men.

"We're ready sir," he said.

"OK, Frick. What's your plan?" asked the colonel.

"Sergeant Shard and Corporal Hirsch will take the downstream patrol. They will go through Charlie Company's area and work their way across the rice paddies to Stream 102. The rice paddies will conceal them if they keep down all the way. They will work their way down the bank of the stream for about a half mile."

The colonel nodded his approval.

"Sergeant King and Corporal Edwards will take the upstream patrol and work across the rice paddies to Stream 102. Both patrols will carry a PRC 6 radio. Unless we call them in sooner, they will report back by 1300."

"It's a good plan, Frick," said the battalion commander.

He turned to the four soldiers. "You've got a rough job, but we've got to find out as much as possible about the enemy. I want to know where they are, and I want to know how many are out there. Take it easy getting out and coming back. It's important that they don't see you. Any questions . . .?" The four men were silent. "OK, move out and good luck to you."

As they left the CP, the colonel turned back to his S2. "Now Frick," he said, "you know what I want. Get the rifle companies busy gathering information, too. I'm going to check our perimeter. (See Map B). I'll be back in a few hours. If anything comes in on the radio keep me posted."

Two hours later, the colonel stepped wearily into his CP. He sank slowly onto several sand bags that had been stacked chair-style in a corner. The S3, who had gone with him, laid his map board against a wall of the CP. Frick, who had been pondering over a large map, immediately turned and faced the colonel.

"What's happened since I've been gone, Frick?" asked the colonel.

"A message from regiment came in a few minutes ago, sir," said the S2. "It's being decoded now."

"Good. How about your patrols?"

"Both of them have been sending in a steady stream of messages."

The S2 picked up a map board and opened it.

"Here it is, sir—Hills X and Y seem to have the strongest forces on them. (See Map B). Both patrols report machine guns on these hills. They estimate at least a company on each hill and several machine guns on Hill Z with approximately a platoon of Infantry."

"How about the stream line?"

"From Hill X to Stream 102 there seems to be a company. From the stream to Hill T my patrols spotted only one AT gun and 10 men on the road. From Hill Z to the stream they saw no enemy." Lieutenant Frick paused—

"Anything else?" said Colonel Roberts.

"Yes, sir, there's about a company of men extending from Hill S to the stream on our north. They don't seem to extend all the way to the river though. Able Company has reported strong enemy forces to

the east. The company commander believes it to be at least a regiment. All of the artillery fire we've been getting has come from the east. Most of the mortar fire has been coming from behind Hills X and Y."

"Have there been any significant movements reported?" asked the colonel.

"Nothing unusual, sir, except that a few miles to the south Able Company reports a long line of foot troops moving west . . . the last count was 200."

"All right . . . let's look at the map."

The colonel and Frick were studying the map when the communication officer came into the CP. "Here's the message from regiment, sir," he said.

The colonel took it quickly and read aloud: "Unable to rescue you. Breakout as soon as possible for our lines. We are holding on Imjin River due west of your present location. Notify me as to time of breakout and expected point you will come into our lines. Air drop of food and ammunition will be over your perimeter at 1200. Helicopters for wounded will arrive as scheduled. Signed James, CO."

Well, that's it, he thought, and there's no time to feel sorry for ourselves. There's only one thing to do—breakout.

The colonel reached into the pocket of his jacket and extracted a small black notebook and pencil. He began to write those things that had to be considered in his plan for the breakout. (The sheet from his notebook appears on the next page.)

* * *

The colonel glanced at his watch. It was 2130. The last load of wounded had been carried out by helicopter. Luckily, he thought, we brought those helicopters in after dark.

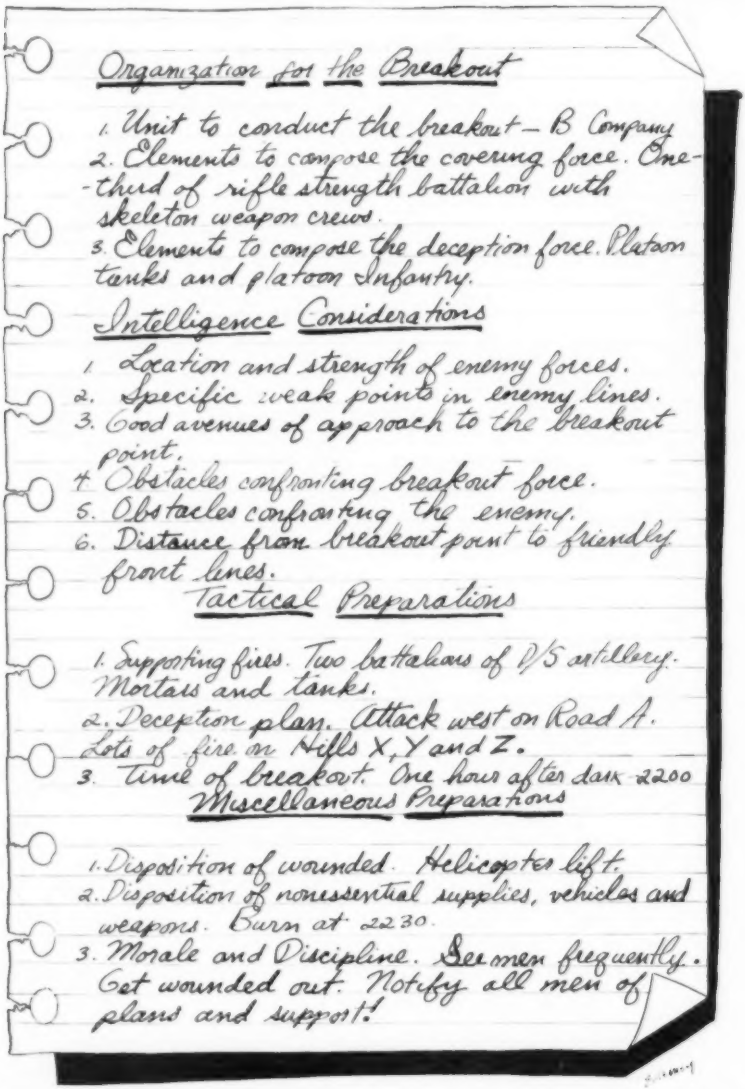
"Frick, I want you to call each company and tell each company commander that all wounded got away safely. Tell them I want every man in their unit to know this."

"Yes, sir," answered the S2.

The colonel called to his S3. "Perry, get those tanks moving. It's time to put the deception plan into effect. (See Map B.)"

Within a few minutes, the roar of tanks filled the air. A platoon of Infantry began to move cautiously through the rice paddies which flanked the narrow road leading out of the west end of the town. The tanks, formed in a single line, clanked slowly down the road, and stopped occasionally to let the Infantry catch up. From a small patch of ground just north of the town, the 81mm mortars were firing. The glow of burning increments traced red arcs in the sky as the mortar rounds rose from the perimeter.

The colonel saw the red flashes of their explosions as they began to hit the tops of Hills X and Y. At the same time, enemy mortar and artillery rounds began falling within the perimeter. This was expected and, with the exception of the deception force, all the battalion were in foxholes.


Organization for the Breakout
1. Unit to conduct the breakout – B Company
2. Elements to compose the covering force. One-third of rifle strength battalion with skeleton weapon crews.
3. Elements to compose the deception force. Platoon tanks and platoon Infantry.
Intelligence Considerations
1. Location and strength of enemy forces.
2. Specific weak points in enemy lines.
3. Good avenues of approach to the breakout point.
4. Obstacles confronting breakout force.
5. Obstacles confronting the enemy.
6. Distance from breakout point to friendly front lines.
Tactical Preparations
1. Supporting fires. Two battalions of 105 artillery. Mortars and tanks.
2. Deception plan. Attack west on Road A. Lots of fire on Hills X, Y and Z.
3. Time of breakout. One hour after dark 2200
Miscellaneous Preparations
1. Disposition of wounded. Helicopter lift.
2. Disposition of nonessential supplies, vehicles and weapons. Burn at 2230.
3. Morale and Discipline. See men frequently. Get wounded out. Notify all men of plans and support.

The colonel reached into the pocket of his jacket and extracted a small black notebook and pencil. He began to write those things that had to be considered in his plan for the breakout.

The tanks started firing on Hills X, Y and Z. He could see the flashes of light and heard the loud reports of their guns.

"I have contact with the FDC, colonel," said the artillery liaison officer, who sat in a corner of the CP with a mike in his hand. "Two battalions are ready to fire."

"Good, tell 'em to shoot."

Shortly, a number of flashes filled the sky as the artillery fire fell on the hills to the west and then crept northward to the breakout point. Loud explosions shook the valley. This, the colonel thought, would not only kill the enemy, but would bolster the spirits of his surrounded battalion.

The colonel turned away from the door. "Call the companies, Perry," he shouted, "it's time to move out."

* * *

As soon as the commander of Baker Company received the order to execute the breakout plan, he picked up his radio and called all his platoons, giving the order to move out in the attack. His company moved forward in a "V" formation. He had good reason for using this formation. His company was to make the initial breakthrough and after the breakthrough they were to hold the shoulders of the gap to permit the rest of the battalion to pass. He planned to use the two outside platoons to hold the gap. It was simple. It created the least amount of confusion in the darkness and provided a reserve force—a platoon which could be used to strengthen either flank in case of an enemy counterattack.

Baker Company moved slowly and without incident until it reached the stream. As the leading element started across, an enemy machine gun opened fire. The lead man ducked down in the stream which was about waist deep and crawled across. He climbed up the bank and hid in a rice paddy. The second man was killed. Men clung to the ground. An ominous silence settled over Baker Company.

Men from the right platoon which had not yet arrived at the stream began to creep forward. The platoon leader of this platoon spotted the flash of the enemy machine gun and estimated its location at approximately the spot where his men would cross the stream. He crawled forward to his lead squad. By the time he reached it the machine gun had been knocked out and his lead men were crossing the stream.

At this point sporadic fire broke out all along the stream. Baker Company commander realized he had to get his company across the stream as quickly as possible. He moved forward with his reserve to fill the gap between his two engaged platoons. As the reserve platoon reached the stream, it spread along the bank and laid down a heavy volume of fire. Men, individually and in groups of two or three, soon began plowing across the stream and up the far bank. As suddenly as it had started the firing stopped. A gap had been smashed through the ring around the battalion and men, moving rapidly, funnelled through it.

But no breakout is completed until the last man leaves the perimeter. Two forces, the deception

force and the covering force, were waiting. At 2230, having received no message to change their plans, they went into action. The tankers (of the deception force) demolished their tanks with well-placed thermite grenades. A specially picked demolition team from the Infantry platoon proceeded to blow up the bridge. While this was taking place, several small teams from the covering force were setting fire to equipment and vehicles in the village. As the tanks, trucks, and equipment burned, both forces moved rapidly toward the breakout point. The covering force, commanded by the battalion executive, moved over the same route as the major part of the battalion had used. The deception force, with the tank crews, moved north along the friendly side of the river bank. Both forces moved through the breakout point a short time later. The breakout was complete.

* * *

It was morning. Colonel Roberts was seated at the regimental commander's table. A small map was lying on the table between them. Colonel Roberts, pointing occasionally to some features on the map, had been explaining how his battalion made the breakout.

"I'm inviting the general down for lunch, Bull," said the regimental commander, "so he can hear your story. It's too good for the Old Man to miss. I know you want to get back to your battalion now. I'll expect you back here at noon. But before you leave, I have two questions . . ."

"Yes, sir," answered Colonel Roberts. "Fire away."

"These, I believe, were your two most important decisions," said the regimental commander. "How did you determine the point of your breakout and the time?"

"They were both difficult decisions to make," said Colonel Roberts. "We chose the northwestern part of the perimeter for the breakout for several reasons. We learned from reconnaissance that it was a weak point in the enemy's ring around us. We had a good avenue of approach to the breakout point, and our route to friendly lines was as short as possible without having to smash through the enemy's main strength on Hills X, Y and Z. We had good reason to presume the enemy would concentrate his main defensive effort along the road to our friendly lines, expecting us to use it for an escape route. You know the Commies value vehicles more than they do the lives of men. They would never expect us to leave our trucks and tanks behind. Consequently, we sent our deception force along this road.

"Our choice of a night breakout was dictated primarily by the terrain and secondarily by the smallness of our force. You can see by the map there is very little cover or concealment between the village and Hills X, Y and Z. We would surely have lost many men attempting to move across this terrain during daylight. We would also have lost the element of surprise and given the enemy a better opportu-

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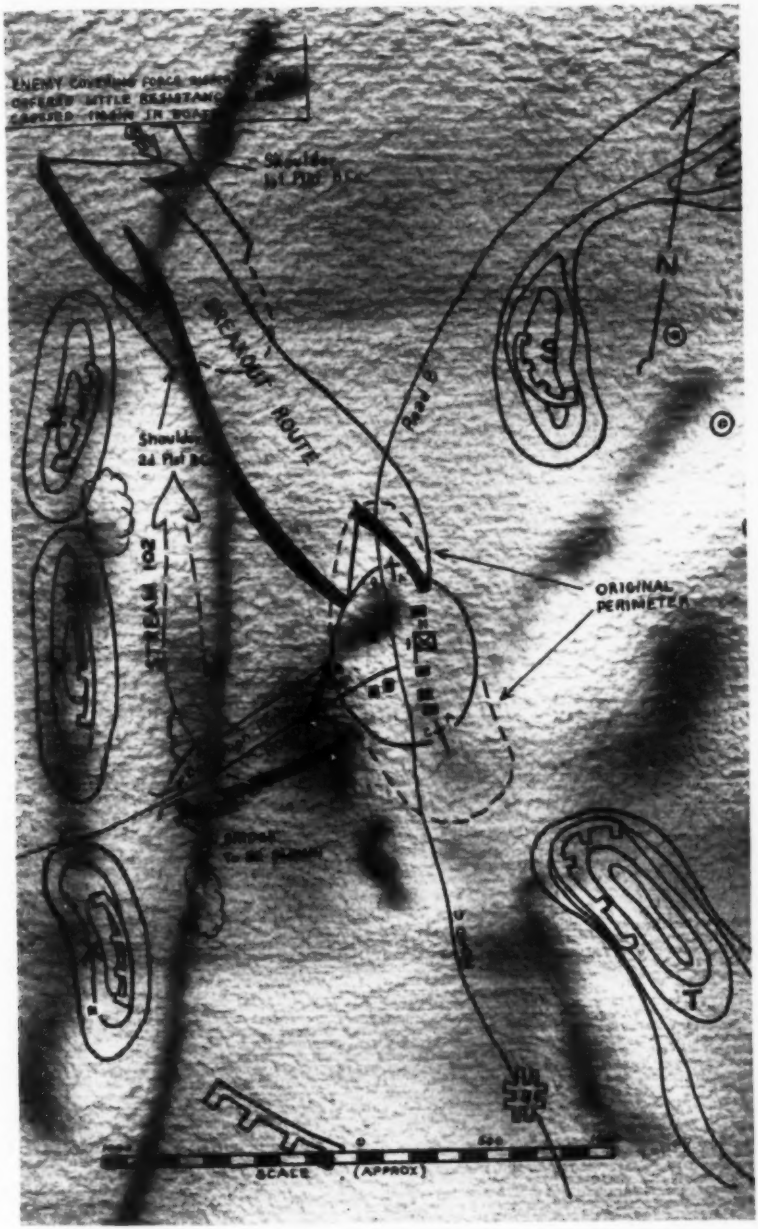
Map B shows the route of the deception force the battalion commander used and the breakout route of the main forces.


ENEMY COVERING FORCE
Shoulder
RENAULT ROUTE
Road 9
Shoulder
24 Foot
ROAD
ORIGINAL
PERIMETER
N
SCALE
(APPROX)

nity to concentrate his overwhelming fire power and forces at the point of the breakout."

* * *

This story is based on an actual combat example which took place in Korea. It had a happy ending. The colonel and nearly all the men of his battalion returned safely to friendly lines. But for every battalion that has escaped from an encirclement, there have been many more that have failed. Beginning with the classic battle of encirclement at Cannae in which a Roman Army of 72,000 men was completely annihilated, through the years to the battle of Stalingrad in which an estimated 330,000 Germans were killed or captured, the record of successful escapes has been dismal indeed.

Within recent times breakouts from encirclement have occurred more and more often. The lessons learned from these breakouts have provided fundamental rules which, if followed, will greatly increase our ability to escape from encirclement. Nearly all these rules are applicable to the foregoing example. For emphasis, we shall briefly touch on them again.

First, reduce the size of the defensive perimeter. This should be done as soon as possible after becoming surrounded. By doing this, you will increase your defensive strength.

As soon as you have begun the adjustment of your lines, check the status of your supply. With aerial resupply what it is today, it's a simple matter to order and receive all the supplies needed for the defense and the breakout. Next in importance are the preparations that must be made for the breakout. These preparations must be started by getting information about the enemy. Planning for the breakout can't begin until the enemy's position is determined. In surrounding you, the enemy has almost certainly over-extended his lines. There will be weak points which must be found. Once you have found these weak points, speed is of utmost importance in completing the breakout plan. The longer the breakout is delayed, the more time the enemy will have to strengthen the circle around you.

After finding the weakest parts of the enemy's lines, measure their distance from friendly lines. Be sure to consider basic terrain features such as avenues of approach to the breakout point and natural obstacles hindering your advance and hindering the enemy's attempt to counterattack. All these elements must be considered until the best solution is found—this will be your decision as to the breakout point.

The breakout plan must be simple, yet it must be complete in every detail. Nothing can be left to the imagination; nor can anything be assumed. A slipshod plan will surely result in a slipshod breakout attempt. A plan, the essence of which is "every man for himself," is not a plan—it's plain and simple murder!

Finally, there are three very important nontactical details that should be mentioned. The wounded must always be considered and every possible effort must be made to evacuate these men by air. With

helicopters this shouldn't be a difficult task.

Secondly, plan for the destruction of equipment. If your vehicles are not used in the breakout, they must be destroyed. Any supplies or equipment, such as rations, ammunition and weapons which are to be left behind must be destroyed. This must be done during the breakout in order not to inadvertently tip off the enemy as to the breakout intentions.

All soldiers have an inherent fear of being encircled by the enemy. This has naturally been magnified by the fact that very few individuals have ever escaped from encirclement. With this fear comes a consequent breakdown in morale and discipline. Unless the commander does everything in his power to raise the morale and discipline of his troops to a high level, his chances for a successful breakout will be slim. The commander must be seen frequently by his troops and he must display a calm and confident manner.

In this problem we have presented some simple elements that should be considered by commanders of units attempting breakout from encirclement. We have not covered every detail, but we feel the most important ones have been discussed. We don't consider breakout from encirclement an easy task, but we know that a unit which has the FIGHTING SPIRIT, as well as a good plan, can succeed.

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Our officer corps is dedicated to the belief that our high standards of character and integrity must be maintained. We recognize, honor, and preserve the dignity and identity of the humblest soldier.

— General J. Lawton Collins

MACHINE GUN MISSION

Capt. Alfred Phillips
1st Lt. Frederick A. Pieper

That was your first attack, wasn't it? The mortars were okay but . . .

"THAT'S IT! Any questions?" Lt Colonel Aubrey, commander of the third battalion, was speaking. Aubrey, a short, broad-shouldered man with graying hair and shrewd eyes, looked over the company commanders and staff officers assembled for the briefing.

There were no questions.

"Then I'll see you all later."

As the men left the thatched roof hut, with only a CP sign to distinguish it from the other small Korean homes around it, the colonel's thoughts went back to the attack the battalion had made two days ago, before going into its present defensive position. The attack had gone well, but the machine gun platoon had not fulfilled its mission.

He reached into his pocket and for the fifth or sixth time that day pulled out a piece of paper. It was a note from regiment asking him to release Captain Bronson, the heavy weapons company commander. He read it slowly, folded it and returned it to his pocket.

Captain Bronson was almost at the door when the colonel called.

"Bronson — could you stick around a few moments?"

"Yes, sir."

"Here — sit on this box. Bronson, that last attack was the first you pulled with this outfit, wasn't it?"

"Yes, it was, sir," said the captain, a tall, alert-looking man who seemed younger than his 30-odd years. "It was the first attack I've had anything to do with since I came back on active duty."

"Weren't you in Europe during World War II?" asked the colonel.

"That's right, sir."

"Did you ever serve with a heavy weapons company?"

"Yes, sir. I was an 81mm mortar platoon leader during most of the war. I took over a rifle company about two months before VE Day."

Colonel Aubrey nodded.

"I had an idea you knew a great deal about mortars. You employed them well — the 75mm recoilless rifles too — but I think you'll agree that in our last attack the machine gun platoon could have been used more effectively."

"Yes, sir. Ever since the attack I've been doing a lot of thinking about that platoon. As you know, colonel, both the platoon leader and I joined the outfit only two weeks ago. He didn't know too much about leading a machine gun platoon, so I directed it throughout the attack. We covered the actual attack okay, but I felt our weak point was that we didn't move forward to cover the reorganization of the rifle units."

Col Aubrey knew Bronson's difficulty

"That's right. You fell down there," said Colonel Aubrey. "Now remember this: the job of the machine guns within the rifle companies is to give **close** support to those units. But the mission of your machine gun platoon is to provide close and **continuous** support."

The colonel looked closely at Captain Bronson. "Now you're new on machine guns, and this idea of continuous support might be a bit new to you. It means three things. Your machine guns hit the objective hard in the preparatory fire — in softening up the target; during the attack they protect the exposed flanks of the rifle units; and, just as important, they support the reorganization once those units get to the objective. Now that's where you fell short."

Colonel Aubrey continued. "Okay, let's talk about that last attack. The machine gun platoon was in general support of the battalion. But there will be times when we'll employ them differently to render the most effective support to the rifle units. But come what may — it will still furnish close and continuous support."

Captain Bronson leaned forward as if to ask a question.

"If you've got any questions let's have them, Captain. Let's get them cleared up in your mind right now."

"Well, sir," said Captain Bronson, "every unit I've been with seems to have its own SOP's on how to employ supporting weapons. I'd sure like to know exactly how you'd define general support, direct support and attachment."

"All right, let's take general support first. Suppose we attack over terrain where we have observation and fields of fire over the greater part of the battalion zone. When the machine guns can effectively mass their fires on the critical terrain in the battalion zone, I'll put them in general support. Each attack rifle company will get machine fire on its share of the objective. But let's say one of these companies runs into tough going. I'll help it out with the fires of the entire platoon. General support gives me the most control and available fire power, so I'll use it whenever I can. Do you follow me?"

"I certainly do, sir. Now when would you use the other methods?"

"Okay, let's assume we have an attack going, but we can't find positions to set up our machine guns that give us the necessary observation and fields of fire for general support. We then have a choice of attaching them to the rifle units or placing them in direct support.

"Now let's talk first about attachment," Colonel Aubrey went on. "We'll assume that the platoon is ordered to support two attacking companies — one section attached to each company. All the fires of each section will be used to assist the company it has been assigned to support. The guns of one section will be used to fire in support of its rifle company before and during the attack. Once the objective has been taken, the section will displace forward by squad echelon to support the reorganization. Don't forget, **close and continuous** support."

"Is that the way attachment always works?" asked Captain Bronson.

—but Regiment said to release him!

The colonel paused to pull a pipe out of his pocket. Methodically he tamped down the tobacco. "No, not necessarily," he said, lighting a match and inhaling deeply. "There may be situations where the platoon will be ordered to support only one company. In that case, all the platoon's fires will be massed on that company's objective, and will be employed in that company's area. We'll use attachment whenever you or your machine gun platoon leader has difficulty in controlling the fires of the sections. You can guess when that might be."

"Control would be tough over rough terrain," ventured the captain.

"Right. Other times would be when the rifle unit is on a separate mission, when we are advancing over an extremely wide front, or in specialized situations such as combat in cities, or attacking a river line. Situations where control must be decentralized. Attachment means this: The commander of the rifle unit controls the machine guns exactly as if they were a part of his own unit. Administratively they're his."

"So I let him handle the machine guns for the time being?"

"Not exactly. You're still the heavy weapons company commander, and you advise the rifle company commander how to employ those machine guns. In addition you'll render him all assistance possible in the problems of ammo resupply, and the issuance of rations."

"What is the difference then between direct support and attachment?" queried Captain Bronson. "That has me puzzled."

"The only difference," replied the colonel, "is in the control of the fires. The support delivered, the firing positions selected, and the missions are exactly the same. The machine gun platoon leader, under your directions, will control the platoon in direct support; coordinating very closely with the supported unit commanders. Direct support is a cross between general support and attachment, and a poor one, at that; so we'll put it this way: Whenever we can mass the fires of the platoon on the critical terrain in the battalion zone, and when the battalion command group can effectively control those fires, we'll keep them in general support. In situations where control by us is difficult, we will delegate the control of those fires to the rifle unit commander."

"That clears it up for me, sir," nodded Captain Bronson. "There's one more thing I'd like to know though. Each squad now has both a heavy and a light gun. I suppose you will want both of them firing during every attack."

Colonel Aubrey pulled thoughtfully on his pipe. "Let's put it this way, Bronson. Fire both guns in the squad whenever possible. But if you can only fire one gun, make it the heavy. You may not have enough ammunition to fire both, or you may find firing positions for only one gun in the squad. Remember — your heavy's far more accurate than your light, and it'll give you a greater amount of sustained fire."

"Light up if you feel like it. Never smoke cigarettes myself." He tapped his pipe. "Stick to Old Smoky."

While Captain Bronson lit up, the colonel continued. "Now let's think about what we've got to look for when we're choosing firing positions. First, you've got to have good observations and fields of fire. Of course, the crews should have cover and concealment. If possible set up the guns in partial defilade. Be sure to choose your routes for bringing up ammo and for moving forward."

The colonel noticed that Captain Bronson was listening with great interest. "One more point. Try not to set the guns closer together than 30 yards, or further apart than 50. The terrain might make this impossible sometimes, but keep it in mind anyway. If they're closer than 30 yards, one 120mm mortar shell can knock out both weapons. And if they're too far apart, the section leader can't control his guns."

The colonel paused, then looked hard at Bronson. "How's all this sound to you?"

"Mighty clear, sir. You can count on me. Next time I'll get that machine gun platoon on the objective as soon as possible to help out in reorganization. If I can, I'll use my vehicles to carry both the heavies and the lights forward. If we have to hand-carry the weapons, I'll get those heavies up there unless some really rough terrain or a long hand-carry forces us to use the lights. In any case, I'll get the heavies up just as soon as I can."

Colonel Aubrey smiled. "Good! Remember about continuous support. At times you're going to have to move forward during the attack to accomplish your mission. Don't forget that if the platoon is used as a unit, you will displace forward by section echelon. That way, one section will always be in firing position."

"I guess I'd first displace the section with the poorer field of fire," said the captain.

"Yes. If both sections have equally good fields of fire, displace the section closer to the new firing position first."

"I can see where my machine gun platoon leader will be kept mighty busy. He'll have to keep his eyes open for positions throughout the attack. He and I will both have to be sure those guns are being used as effectively as possible."

Colonel Aubrey looked at his watch. "Well, Bronson, it's about chow time. And I know you've got plenty to do. I'm sure now that you'll do a good job. Any man who knows as much about mortars as you do won't have any trouble with machine guns. Remember — I'm counting on you. Every commie you kill is one less my riflemen have to meet when they hit the objective. And if you need help at any time — well, that's what I'm here for."

"Thanks, sir. If there's nothing else, I'll get going. By the way, sir, we've got some damn good cooks. You ought to chow with us sometime, colonel."

"Well, that's a good idea. I'll be down tomorrow about 1200."

Bronson saluted and left.

Colonel Aubrey pulled the piece of paper from his pocket. He brushed out the wrinkles and read it carefully — several times. He called Captain Nelson, the S1, who was standing outside the CP.

"Yes, sir."

"Nelson — about that note we got from regiment on Bronson. Tell 'em we can't release him."

how would YOU do it ?

Capt Lyman Clark

Read the situation, study the sketch and see if you come up with Captain Clark's solution to this tactical problem. — The Editor.

Situation

YOU ARE the Commanding Officer of Company K, the 31st Infantry Regiment. In conjunction with other elements of the 7th Infantry Division, the 31st Infantry has been advancing south in a column of battalions with the mission of seizing and securing Objective X. (Off sketch to south.) Strong aggressor positions north of Johnson Road caused the regimental commander to launch an attack with the 2d and 3d Battalions in the attack echelon.

At 1300 today, the 3d Battalion succeeded in capturing Shelton Hill and Dance Hill. The battalion commander has been ordered to continue the attack at 1600 today. Companies I and K hold positions shown on the sketch. The battalion commander has decided to continue the attack with I and K Companies holding Company L in battalion reserve. All platoons of I and K Company are on line, as shown. At 1330, the battalion commander issued the following orders:

TO CO, COMPANY K, FROM CO, 3D BATTALION. YOUR MISSION FOR TODAY:

Co K: Atch, 3d Plat Tk Co
1st Sec MG Plat, Co M

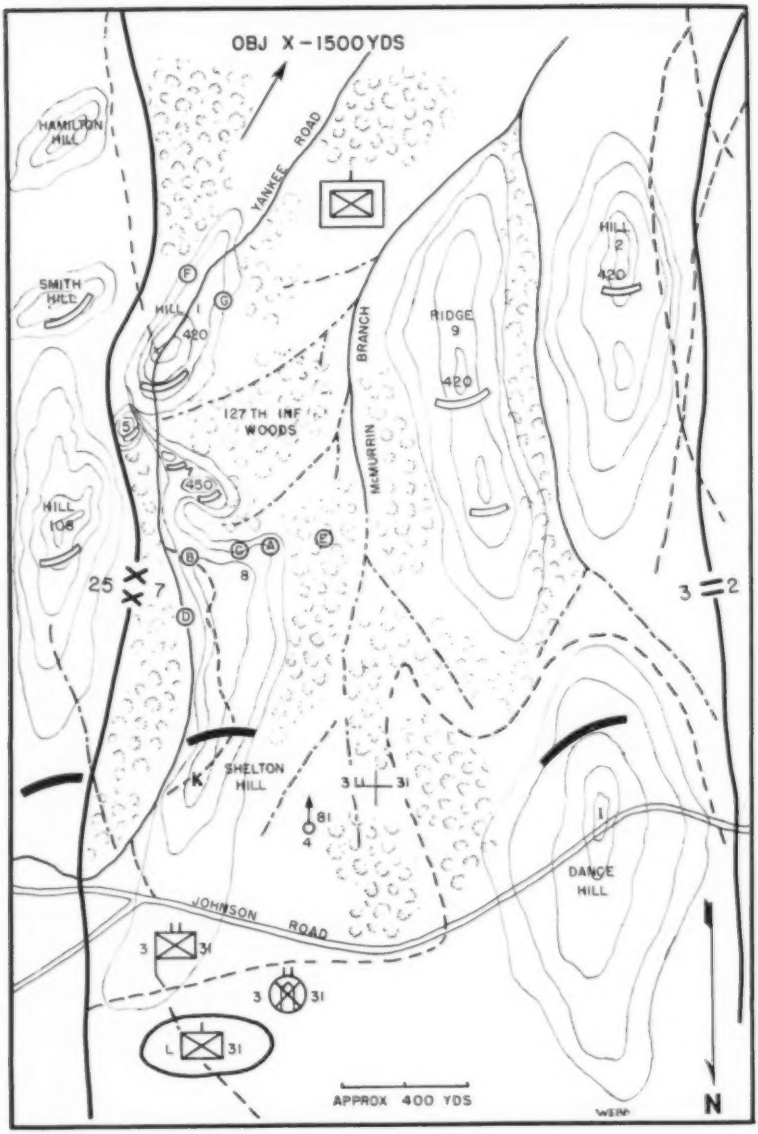
Atk in E (left) portion Bn Z, MCMURRIN Branch inclusive, destroy en in zone, seize and secure Hill 1.

Signed, Lt Col, Bn CO

As Commanding Officer of Company K, you are in possession of the following information.

1. Security elements from your 2d Platoon on the right operating vicinity Point A received heavy automatic weapons fire from northwest slope Hill 7 and 127th Infantry Woods at 1315.

2. Security elements from your 1st Platoon on the left operating


OBJ X-1500YDS
HAMILTON HILL
YANKEE ROAD
SMITH HILL
HILL 1
420
F
G
127TH INF WOODS
BRANCH
McMURRIN
RIDGE 9
420
HILL 2
420
450
HILL 108
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8
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3
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K
SHELTON HILL
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4
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DANCE HILL
JOHNSON ROAD
3 31
3 31
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APPROX 400 YDS
N

vicinity Point B received heavy automatic weapons fire from highest point on Hill 7 at 1320.

3. Security elements at Point C reported that they observed an Aggressor rifle squad and an Aggressor machine gun squad going into position on western slope Hill 1 at 1320. This security element also reported that an Aggressor antitank weapon was well dug-in near the highest point on Hill 7.

4. Based on all the enemy information you have, you estimate that the enemy in the company zone to be two reinforced rifle platoons, with two reinforced squads on Hill 7.

5. Enemy mortar and artillery fire has been falling in McMurrin Branch draw south from Point E since about 1300.

6. Tanks can operate over any terrain in the battalion zone, yet tank maneuver will be greatly restricted in McMurrin Branch draw.

7. With the exception of about 100 yards on the western slope, Hill 1 is obscured from Hill 8.

8. Daylight 0630—darkness 1830.

* * *

PROBLEM. As the CO of Company K, which one of the following plans should you choose to best accomplish your mission? Also, what factors should you, as a rifle company commander, consider when determining the scheme of maneuver?

Possible Solutions

Plan A

Initially two platoons in the attack and one in reserve. From present position the first and second platoon will move south in column through McMurrin Branch draw and attack Hills 7 and 5 from the west. The third platoon will be reserve in present position and will move south on order through McMurrin Branch draw and attack Hill 1 from the west and northwest. The first and second platoons will revert to reserve on Hills 5 and 7 after the attack has been launched against Hill 1. Three of the attached tanks will accompany the first and second platoons and the remaining two tanks will support by fire from Hill 8 and join the Infantry in the assault on Hill 7. Then the entire Tank Platoon will support the attack of the third platoon by fire from Hill 7, and join in the assault on Hill 1.

Plan B

Initially one rifle platoon in the attack and two in reserve. The first platoon will attack Hill 7 from vicinity of point D in conjunction with the tank platoon which will support by fire from hull defilade position on Hill 8 and join in the assault on Hill 7. Simultaneously with the assault on Hill 7, the third platoon will maneuver to the left of Hill 7, east of Yankee Road and attack Hill 5, continue the attack and seize the left portion of Hill 1. At the same time the second platoon will maneuver through the woods to the right of Hill 7 and attack Hill 1 from the right in coordination with the attack of the third platoon. The tank platoon will

support the attack on Hill 1 by fire from Hill 7 and join the third platoon in the assault on the left portion of Hill 1. First platoon will revert to reserve after launching of coordinated attack on Hill 1.

Plan C

Initially two platoons in the attack and one in reserve. From present position the first platoon will move south to the left of Yankee Road, bypass Hill 7, and attack Hill 5—continue the attack and seize the left portion of Hill 1. Simultaneously the second platoon will move south through McMurrin Branch draw, bypass Hill 7 and attack and seize the right portion of Hill 1 from the northwest. The third platoon will be in reserve in its present position. The attached tank platoon will initially fire on Hill 7 from hull defilade positions on Hill 8—on call or prearranged signal it will move forward to hull defilade position on Hill 7, fire on Hill 1, and join the infantry in the assault on Hill 1.

Solution

Plan B is the best plan. It provides for:

1. Maximum flexibility.
2. Opportunity to gain and maintain a high degree of surprise.
3. Speed and insures momentum.
4. Maximum use of supporting fires.
5. The best use of the attached tank platoon.
6. The assignment of a mission to each platoon well within its capabilities, which precludes extensive reorganization of any platoon before the attack on Hill 1 is launched.
7. Maximum time for accomplishing the mission (seize and secure Hill 1) before darkness.

The following factors should be considered, by the rifle company commander, in determining the scheme of maneuver for a particular attack.

1. Mission—what? Where? Distance? Time available?
2. Enemy—location? Disposition of automatic weapons? Strength? Capabilities? Morale?
3. Width of zone of action—The company is responsible for overcoming all effective hostile resistance within the assigned zone.
4. Terrain—Study terrain very carefully—the enemy does—make terrain work for **you.**
5. Reinforcements and supporting fires available—Do you have an attached tank platoon? Do you have attached machine guns? Does your plan facilitate maximum use of all fire support available to you? Does it include plans for displacing your weapons so as to provide continuous support?

Solutions Analysis

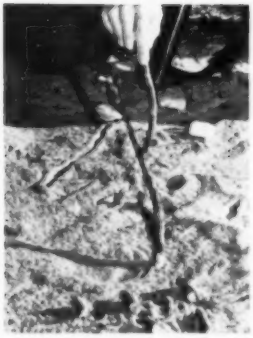
Plan A is poor—It offers momentum in that it includes plans for the reserve platoon to be committed against Hill 1, however the attacking platoons may be unnecessarily delayed as they are moving through an area known to be covered by machine gun, mortar and

artillery fire. In such a situation it would be difficult to deploy for an assault against the flank of Hills 5 and 7. In addition to being difficult to control, the assault line would be enfiladed by the enemy on Hill 1. The element of surprise would be lost early, which would allow time for the enemy to reinforce Hill 1. This plan does not make good use of the tanks in that it sacrifices the main characteristics of the tank: Fire power mobility and shock action, in the attack on Hill 7. This plan also makes control more difficult by the tank platoon leader, and the employment of tanks in McMurrin Branch draw would aid the enemy in anticipating our plan.

Plan B is excellent—It provides for speed, surprise and shock action. It provides maximum flexibility and momentum. The tanks are utilized to the maximum in that mutual support is possible within the tank platoon and within the Infantry-tank team at all times during the attack. To have Infantry and tanks converge on an objective, as on Hill 1, on two separate axes is the best method of Infantry-tank attack. The capture of Hill 7 provides positions to which supporting weapons can be displaced, thus facilitating fire support during the attack on Hill 1. Control is simplified in that many OPs are available on Hill 7 from which Captain Company K can see most of the attack and all of the assault on Hill 1 by his platoons. One platoon is not assigned more than it can be expected to do. Basically each rifle platoon has one objective to take. It is true that all platoons may be moving at the same time, however, we are forcing the enemy on Hill 1 to disperse his efforts in three directions in a short period of time—front, left flank and right flank. We must capture Hill 1, reorganize and consolidate before darkness as we have an attack mission at 0715 the following morning.

Plan C is poor—It allows flexibility and surprise to a certain extent, but does not provide for the capture of a critical terrain feature (Hill 7) which is occupied by effective enemy resistance. This plan will allow tremendous fire support to be placed on Hill 7, yet we have no assurance that the fire will neutralize all effective resistance on that hill. Without Hill 7, Captain Company K has no position to displace supporting weapons that should be used to support the attack on Hill 1. The plan for the tanks to move to Hill 7 alone is not sound because mutual support is not possible between tanks and Infantry, and we know the enemy has at least one antitank gun on Hill 7. Further, the second platoon will make its move through McCurrin Branch draw which is covered by machine gun, mortar and artillery fire. This plan gives the enemy an opportunity to catch the first platoon between two well-prepared defensive positions, and at the same time place devastating fire on the second platoon in McMurrin Branch draw.

CARDED



It Takes Imagination

Lt Col Edward J. Barta

THE YOUNG COMMANDER opened the parchment-like piece of paper. On it was typed one of the briefest orders ever issued to an army.

"The Commander in Chief of the Army of the South," it read, "you are to engage the federal forces of Morelos immediately and prevent their withdrawal to the northern front."

Emiliano Zapata* glanced at the orders and after a moment of brooding silence, picked up his machete. Using the point for a pencil, he traced a large, simple figure on the earthen floor of his hut.

"Looks like a fan—doesn't it?" he asked. "The 'fan' is all eastern Morelos, and to take the handle we first must take all the ribs of the fan."

Quickly he outlined the course of the battle, pinpointing each major campaign on his 'fan.' With his machete he cut in the rivers, the railroads and pathways. Occasionally he bent down and with a handful of loose soil constructed a mountain that would soon become an important stronghold.

In a matter of minutes Emiliano Zapata, a man who could scarcely read or write, had outlined to his lieutenants the campaigns of the Mexican revolution of 1910.

Zapata had no elaborate map or blackboard on which to outline his battle plans, but his simple scratchings on the earthen floor was all he needed and all he had time to prepare.

Even today, despite the Army's increased efforts to provide adequate visual aids and training devices, an instructor may find himself without any aids.

What can he do?

He must improvise. And just as Zapata, he must use whatever material is at hand to do the job.

Whether in combat, on maneuvers or in a training area, it becomes necessary at one time or another to improvise visual training devices in order to properly instruct troops.

Training aids can be constructed or improvised very easily by using a little effort, initiative and imagination.

* Zapata was commissioned "Chief of Staff, the Army of the South," by Francisco Madero, who had escaped Don Porfirio Diaz' Mexican government and fled to San Antonio, Texas, establishing headquarters for the Revolutionary Committee of the Anti-Re-electionist Party of Mexico.

Just like Zapata, it is necessary at times for unit leaders to construct a hasty terrain map to graphically depict the objective. Here a platoon leader is briefing his squad leaders on a platoon field exercise. You will note he has traced in the roads and stream with his stick. He has molded a hill out of the sand to represent the objective and with small sticks has indicated a village at the base of the objective. The stones indicate the positions of the squads. This type of terrain map is perhaps the most basic of field expedient training aids. By putting his imagination to work, this platoon leader is making certain that his orders will be understood by his squad leaders.

Remember, you're not trying to duplicate the attractive, well polished visual aids made by experts. You're trying to train troops with field expedients which will increase interest and illustrate points.

We have constructed on the following pages a few visual training aids that can be made with little trouble. Some are excellent for field use and others especially valuable for "rainy day training." Keep in mind that the test of any training device is: Does it help the troops to learn? If it does, it is a good training aid.

Tactical formations can be taught in the field by the use of stones numbered to designate the position of each man in a squad. Here the squad leader has set up a squad diamond. The numbering can be done with pencil, crayon or grease pencil. Bottle caps can be used instead of rocks. This expedient is equally effective when used indoors or in the field and can also be used to great advantage in a combat situation to show each man exactly what he is to do.

An out-of-doors sandtable (shown at the left) can be made by wetting down a portion of the ground so that it can be molded easily. Sketch in the general terrain design with a stick, and mold the hills and valleys. Small pieces of sponge or steel wool placed on paper clips can represent trees. Kitchen matches (striking heads removed) with small crossbars will do for telephone poles. Matches and thread will form a fence, or for a wire fence, use a narrow strip of window screening. In place of the grass, sprinkle some powdered green chalk on the model to represent vegetation or growing fields. Popcorn, colored green, will do for bushes.

The very simple field terrain model at the right can be made by spreading an Army blanket, piece of burlap, or canvas, on flat ground. Crumple some paper and place under the blanket to form hills. Engineer tape (or basting tape), dipped in blue ink, will represent rivers and streams. Blue paper or tinfoil, sprinkled with blue chalk dust, will serve for a lake. White engineer tape will form improvised roads; red engineer tape, dirt roads; and chicken wire or cross-hatched engineer tape will handle the railroads. Scraps of wood can represent buildings, and military map symbols drawn on small squares of cardboard can show unit locations. For barbed wire entanglements, use a piece of barbed wire. Buttons, thumb tacks, and sticks of wood can represent pillboxes and entrenchments. A cardboard arrow will show direction, and scale can be represented by numbered markers placed along one side of the model. Cut some ordinary grass and sprinkle it over the blanket to indicate forested areas, and the model is ready for use.

At times it will be necessary to make an out-of-doors sandtable without chalk, matches, tape or wire. In the photograph at the left a sandtable has been built with debris found in the immediate area. A string has been used to show the line of departure or the main line of resistance. Notebook paper, marked with grease pencils and held down with pebbles, will stand for military symbols. Neither this terrain table nor the one at the top of the page can be considered a polished training aid, but if they help make a critique more effective they are worthwhile. Zapata had far less than this to use, and he outlined the campaign of an Army!

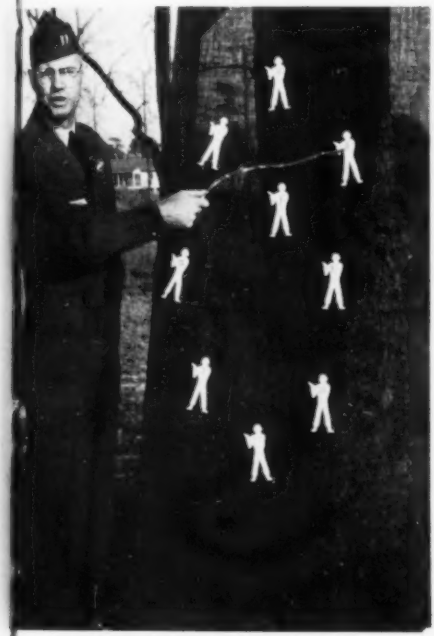
Another use for the blanket terrain model or sandtable is for training in fire adjustment. Suitable targets for the indirect fires of mortars and artillery can be pointed out on the model. The observer then prepares his fire request or fire command. He shows the bursts of adjusting rounds by a ball of cotton held with a straightened wire coat hanger. The observer is required to sense each burst and figure the corrections for the next round. For example, using the target-grid method, with an estimated O-T range of 1,500 yards, the burst is sensed over, 20 (mils) left. The correction sent to the FDC is RIGHT 30, DROP 200.

For giving recoilless rifle gunners practice in engaging moving targets, attach a string to a small box or block of wood. The gunner can track this "target" as it is pulled slowly across the model. The cotton ball again will indicate the bursts, to give practice in adjusting fire.

A class on mines and mine detectors can be taught with no actual training equipment. Some pieces of scrap iron, tin cans, or blocks of wood will serve as mines. The mine detector can be made from a broom stick, top of a No. 10 can, and a round piece of wood. The nomenclature or functioning cannot be taught with these crude devices, but troops can be shown the technique of sweeping for mines and how to lay out mine field patterns.

U.S. Army photographs
by Pfc Gordon W. Shafer

A formation board can be made from an ordinary Army blanket hung over a smooth surface. Trace military map symbols, or unit designations on small rectangles of cardboard and glue coarse sandpaper to the backs. This will make them stick to the blanket. The symbols can be moved around the board easily to show any desired formation. This aid is very valuable in teaching tactics, map reading and many other subjects.



Here is a training aid that is valuable for teaching squad combat formations. A large piece of burlap or target cloth is nailed to a wooden frame. Soldiers are made from small pieces of cardboard, and a paper clip is bent to form a hook and fastened to each soldier. The soldiers can be moved merely by sticking the improvised hook through the burlap. Cardboard cut-outs of tanks, airplanes, vehicles and map symbols of units can be used in place of the soldiers to fit the subject being taught.

There is no limit to the visual aids an instructor can improvise with a little imagination. When there aren't a sufficient number of live personnel to use as aggressors in a field exercise, daub some paint on silhouette targets to make them appear more realistic and place them on the objective to represent the enemy. Some scrap 2x4's nailed together will serve as a machine gun!

You don't have to be a fine sign painter or use expensive materials to make a chart or visual aid for a class. The chart on the opposite page was constructed for five cents. All that was needed — butcher paper and a grease pencil. If a grocery store isn't nearby, use the wrapping paper from a bundle of GI laundry. Spread the sheet out on a table, draw in guide lines with a pencil and straight edge, and sketch in the letters. Color in the letters with ordinary crayons or grease pencils. Use several different colors (if you have them) for eye appeal.

Whether you use ink, crayon, or grease pencil be certain your letters are large enough so that everyone in the class can read the chart easily. Letters at least three inches in height are recommended for a class of 200 men. Use simple, fat, block letters — they are much easier to read.

A simple blackboard can be constructed by putting a couple of coats of black paint on a piece of cardboard or building board. Use flat non-oil paint, since oil paint does not take chalk very well. Paint both sides of the cardboard to get two blackboards for the price of one. Some pieces of laths can be tacked around the edges to form a molding that will keep the blackboard from warping and will make it easier to carry. Keep it light so it can be transported easily. Shown at the right is a 3x4 foot blackboard made from a piece of beaverboard. It can be stowed in the back seat of a jeep and transported to your training area. A booklet, entitled "Blackboard Drawings," is available at the Infantry School Book Department. It will be a big aid in helping to develop a better technique for blackboard instruction.

A large sheet of acetate (shown in the middle photograph on the opposite page), backed by a sheet of white paper and thumb-tacked to a smooth surface, will serve in place of a blackboard. Use grease pencil in place of chalk. A piece of cloth saturated with gasoline or some other solvent can be used as an eraser. Cellophane is recommended for smaller units, since acetate is difficult to procure.

Your platoon has just completed a field exercise and you are five miles from your barracks area. You want to conduct a critique immediately following the exercise at the objective where it will do the most good. You don't have the blackboard, but you do have a piece of chalk. Spread your poncho or raincoat over the windshield of a jeep as the instructor has done above and print on it with the chalk. A piece of cloth, dampened with water, will serve as an eraser. Whether you use a portable blackboard, a piece of acetate, or a poncho, there are several rules you should abide by:

Print large enough so that everyone in the class can see it, and don't talk while writing. After putting the material on the board, stand aside so everyone can see, face the class and then explain what has been written. Use several colors of chalk to make the aid more attractive, and don't confine yourself to lettering. Use diagrams, stick figures, symbols and if you have an artistic flair —some drawings. Erase what you have written or drawn or cover it up when finished, since anything left in sight of the students will only distract their attention.

You must always keep in mind that training aids are designed to implement the teaching and learning processes. When you use expedients keep them simple and confined to the immediate situation. . . . And remember, to get the best results from this type training aid . . . it takes imagination!

PAPER Blockade

CAPT DOUGLAS A HUFF

Is too much "paper work" affecting company training? The author says yes.

"WHAT'S NEXT?" asked the captain wearily.

"Well, sir, we've got the Report Report to make out," answered the first sergeant.

"The Report Report? What's that?"

"Battalion wants a weekly report of the reports we send them. Supposed to increase efficiency."

"Right," said the captain. "Tell Lt Rindle he'll have to take the troops out to training this afternoon; I'll be tied up here in the office. Is the mechanical brain in good running condition?"

"Yes, sir. But we can't find the operator anywhere."

"Headquarters will want a report about that."

The first sergeant saluted and climbed his way over a mountain of paper to the orderly room.

Things aren't as bad as this. Company orderly rooms do not yet have to be equipped with mechanical brains. But it is generally admitted that excessive paper work has become a serious problem.

The company is, above all, a tactical unit. The company commander's main job is to train his men for combat. When too much of his time is taken up by administrative work, unit efficiency is going to suffer. The Army recognized this problem when it added a Warrant Officer Unit Administrator to the Company Table of Organization. His job is to free the company commander and first sergeant for training duty.

But the evil remains. Many companies do not have unit administrators. Others are so burdened with paper work that the combined efforts of the unit administrator, supply sergeant, mess steward, and company clerk cannot handle it. The assignment of additional personnel is a waste of man power and is only a temporary solution. Nonessential paper work has a habit of increasing continuously unless checked. It makes more sense to keep paper work down to the necessary minimum.

Paper work is a term that is loosely applied to all written records, reports, and correspondence. Army Regulation 345-5 lists the 25 records, reports and forms every company must keep for the purpose of efficient administration. These include such items as the Morning Report,* Duty Roster, Individual Clothing Record, Organizational Clothing and Equipment Record, Meal Attendance Record, and Cooks' Work Sheet. All 25 can easily be taken care of by the company's administrative personnel. The paper blockade begins when the company

* Daily Sick Report has been replaced by the individual sick slip which is not a permanent record. See SR 40-600-5, Dec., 1952.

has to keep up a variety of additional records.

Only the 25 records listed in Army Regulation 345-5 are vital to running a company. Practically all the other paper work with which so many companies are burdened could be eliminated without ill effects. A recent survey of five companies training in the United States showed 43 types of reports and records which one or more of these companies were required to keep, in addition to the necessary 25. No two of the five companies had an identical list, and only four of the 43 reports were submitted by all five companies.

Let's take a look at a few of these reports. Three of the companies surveyed were required to make out a monthly "Soft Drink Bottle Report." The report states the number of soft drink bottles brought into the company area by the vendor, the number of bottles returned to the vendor, and an explanation for any discrepancy between the two figures. In the "Alien Wife Report," also submitted monthly, the company must list by name all men of the unit having alien wives as well as the wives' nationalities. This report could easily have been obtained from Service Records and Officers Qualification Records maintained in regimental headquarters. There is no need for company personnel to be a research agency.

One of these five companies was required to submit a monthly list of the enlisted men eligible for OCS. This information can easily be determined from the Service Record or the Qualification Record of every enlisted man and any such list should be prepared by the personnel officer, not the company. The same is true of the separate cards which two of the companies had to keep showing the educational level of each man. Even if these records are considered necessary, it is the duty of the regimental personnel section, and not the company, to submit them.

The filing system is another example of unnecessary paper work. Most companies are expected to keep files of all orders, bulletins, memoranda, and circulars that come down from all higher headquarters. Battalion and regiment will often repeat information taken from the bulletins of higher headquarters in their local bulletins and the company commander must read the same article several times when he checks his company's daily distribution. Since such a file is seldom used (and an identical file can be found at battalion) it is difficult to understand why such a file must be kept in the company orderly rooms.

Why isn't this unnecessary paper work eliminated? There are four main reasons, which can be linked more to the personalities of commanders than to a real necessity for the paper work.

The first reason is a tendency on the part of some battalion and regimental commanders to rely on reports rather than personal observation. The best reports may supplement personal observation, but will rarely take its place. In all fairness we must make it quite clear that such routine required reports as the Status of Equipment Report*

* Status of Equipment Report is required by SR 711-45-2.

and the Strength and Training Status Report* are excellent. These two reports can be used to good advantage by the commander who wants to determine what phase of training or which subordinate unit needs closer personal observation and supervision.

The commander who leans too heavily on reports runs the risk of losing rapport with his unit and especially his subordinate commanders. This type often commands, inspects and disciplines a unit almost entirely through the "remote control" medium of paper. If, for example, Lt Jones is late for reveille one morning this commander immediately writes Lt Jones a letter of admonition. Wouldn't it save time and paper and be much more effective if he did the job in person?

This commander would do better to rely more on personal observation in judging the efficiency of his unit's training and the condition of its equipment. Minor matters of discipline can often be handled better by telephone or personal interview than by written word. Personal contact means more thoroughly injecting one's personality into a unit, provides a better knowledge of the actual condition of the command and does not saddle companies with "tons" of paper work.

The second reason for excessive paper work can be called fear of responsibility. Some commanders demand "unnecessary" reports in order to have a sufficient evidence to convince their superiors they have done their job in case of accident or emergency. The result: companies have to send in a Security Check of Small Arms Certificate, a Monthly Fire Hazard Report, a Monthly Fire Drill Report, and other records and reports too numerous to mention. The commander should make certain these matters are being properly handled, but he can achieve the same end by personal inspection.

Another reason for the paper blockade that is strangling so many companies is a misguided attempt at efficiency. Some battalion and regimental commanders have an idea that the more statistical reports they possess, the more efficient their command will be. So they request reports asking for the percentage of enlisted men attending Troop Information classes, the number of Officers present at the last monthly Officers' Call, or the number of work hours produced by a company every month. These statistics look neat on paper, but have little to do with the unit's actual efficiency. Anyone who feels such figures are essential should collect them himself and not load a company with extra paper work.

The last reason for unnecessary paper work is laziness and takes the form of "Passing the Buck." Some companies are required to send weekly or monthly Public Information Articles, the Informational Roster, and Consolidated Monthly Offenses Report. The company commander is made responsible for work that should be done by the Public Information Officer, the Military Personnel Officer, and the Regimental S1.

* Status of Training Report is required of all T/O&E units by letter, OCAFF, ATTNG-52 320.2/636.

The paper blockade is undermining the efficiency of our companies. When paper work rules, the company commander has no choice but to assign more people to take care of it. Too often the only persons available are the company commander himself, the platoon leaders, or senior noncommissioned officers. When leaders are removed from training to handle paper work, the soldiers' training suffers. If the commander himself has to miss training, the efficiency of the company as a whole is menaced.

Recently I asked twenty company commanders the following two question: "Do you feel that there is too much paper work required of your company?" and "If so, in your opinion is paper work preventing you from training with your unit as much as you should?" In all twenty cases, the answer to both questions was "yes." Every one of these companies was using, on full duty status, a second company clerk in addition to the regularly assigned clerk. I think it is safe to assume that these companies were doing excessive paper work, at the expense of training. (Now in all fairness to everyone — I must confess that I'm no official pollster. My questions could have been slanted too much in one direction, but I believe the results obtained were honest.)

This situation is in violation of paragraph 13, Army Regulation 345-5, January, 1952, which states that the company commander should be relieved of responsibility for as many records and reports as possible, so that he can devote more of his energy and time to unit training.

The obvious remedy is to weed out all unnecessary recording and reporting. This can only be accomplished when higher headquarters (battalion on up) recognize that a "paper blockade" exists. No commander wants administrative work to interfere with training. When a company commander is legitimately overburdened he should tell his immediate superior. In most cases the situation will quickly be corrected.

There are four questions every higher commander should ask himself before requesting a report from a lower unit (particularly companies). These are:

1. Is it really necessary?

2. Must it be a written report?

3. Can it be handled in person or by telephone?

4. Can this information be obtained from records available in my headquarters?

And speaking of "weeding," how about the reams of paper (distribution) that so many companies must file? Why shouldn't companies be required to file only distribution from one headquarters? This would be possible if regiments reproduced in the form of an "information memorandum" those items culled from the directives of higher headquarters that especially pertain to companies.

I feel that much of the flood of paper could be stopped if all commanders relied more heavily on personal observation. The personal touch keeps the commander abreast of his command and incidentally permits the solving of many problems on the spot. Some reports, particularly the 25 mentioned earlier, are required by regulation. These we regard as the essentials.

All others fall into the "nice to have" category, but can be dispensed with rather easily in most cases.

The paper blockade must be broken. If the flow of paper work continues to engulf company commanders, training will suffer. When training suffers, so ultimately will the individual soldiers combat effectiveness. If we all co-operate and "break the paper blockade" the latter need never happen.

The publication of this article is not necessarily to be interpreted as reflecting the thought of The Infantry School or THE INFANTRY SCHOOL QUARTERLY.

Answers . . . to the Quiz

Possible Score	100 points
Expert	90-100
Sharpshooter	75-89
Marksman	55-74
Recruit	30-54
Bolo	0-29

For complete detailed discussion check the reference listed with each of the answers below.

1. 960 yards. (FM 23-32, Nov. 1949, par 48b).

2. One. It is located in Headquarters and Headquarters Company, the Infantry Regiment. (T/O&E 7-11 and 7-12).

3. The three entries the company commander is authorized to make in the line of duty section of the Individual Sick Slip are: 1. No.(M), 2. No(AWOL), 3. Und. (Par 7a, SR 40-600-5).

4. Limiting points are used to fix the localities along the general outpost line, the combat outpost line, and the main line of resistance where commanders of adjacent units coordinate their dispositions and fire plan for continuous mutual support. (FM 7-40, par 244).

5. Enemy military personnel, enemy documents, enemy activity, and air photos are all potential SOURCES of information. Higher headquarters, IPW teams, air photo interpreters, observers, and patrols are AGENCIES that can be employed to gain information from these sources. (FM 30-5, par 29-31).

6. (d) Using an aiming circle to reciprocally lay the mortars. (FM 23-92, April 1951, par 63-64).

7. Adding strength and mobility to the counterattack, depth to the antitank defense, and acting as part of the security echelon from the division. (FM 17-33, Sept 1949, par 305).

8. (a) Direct fire on point targets. (FM 23-81, Nov 1953, par 216).

9. Class I — Food for man, forage for animals (meat and vegetables). Class II — Items for which there is a specific allowance (vehicles, weapons). Class III — Gasoline and lubricants (gas, oil). Class IV — Items drawn for a special purpose, over and above the authorized allowance (barbed wire, assault boats). Class V — Ammunition (weapons ammunition, grenades, explosives). (FM 7-30, Sept 1949; FM 100-10, Sept 1949).

10. 48 tons. (TM 9-718A, Jan 1952, par 5).

The American soldier is smart . . . and with the proper training he would be among the world's best —

Cold Weather Fighters

Infantrymen advance toward an objective, during a training exercise, near Fairbanks, Alaska.

An interview:

with Maj Candler R. Wiselogle

The Infantryman is versatile. He has fought successfully in mountains, jungles and on desert terrain. He fought through the cold winter at Valley Forge, in Italy during the icy winters of WW II and more recently the long, frigid winters of Korea—all with marked success. He has yet, however, to fight for a prolonged period in the Arctic or sub-Arctic. With this latter thought in mind, and in response to reader requests we have interviewed Major Wiselogle, who is especially well informed on the matter. The information which follows is, we feel, vital to Infantrymen in general and commanders in particular if we are to insure the success of any operation that takes place in snow and extreme cold.—The Editor.

Q. What are the biggest problems confronting an Infantryman in snow and extreme cold?

A. Movement and survival.

Q. Are these problems affected by the seasons?

A. Oh, yes. Our methods of movement and survival will vary greatly during winter, summer and the thawing season.

Q. Could you give us some examples?

A. I believe so. In the winter period when Arctic snow is very dry and powdery, skis or snowshoes penetrate approximately twice as deep as in the snow of the North Temperate area of the United States. Also, during the thawing season the streams, rivers and lakes overflow, and drainage is poor because of permafrost. For this reason, large areas are under water and cannot be crossed without engineer support. During the summer months the snow may disappear in certain areas, requiring movement alternately over ordinary ground and over snow. Of course, in the winter, frozen streams, rivers and lakes afford excellent routes for movement.

Q. Are there a sufficient number of roads available in these areas?

A. Definitely not. Roads are few, poorly constructed, and too narrow. For this reason emphasis is placed on attacking with small units, and attacks are characterized by a decentralization of command.

Q. How do these conditions affect the rate of travel?

A. During any period of the year mobility is limited and supply problems become a major consideration. Moving under these conditions *tests* the endurance of personnel to the maximum. Therefore, units have to operate at reduced efficiency. These special limitations must be recognized in assigning tasks.

MILITARY ANALYSIS OF TERRAIN IN GENERAL

Q. What would you say is the most critical terrain in this type operation?

A. High ground is still an important consideration, but greater emphasis should be placed on supply and communication centers, routes for movements, and places affording shelter.

Q. Can you add anything else?

A. Yes. Wooded areas along our avenues of approach may become critical terrain, because they afford shelter and have an effect on reconnaissance.

Q. Are visibility and observation good in this terrain?

A. Yes.

Q. For what reasons?

A. Visibility is generally excellent in the dry cold areas. However, in some areas snow storms and blizzards occur frequently and will reduce visibility and movement to zero. In many wooded areas in the sub-Arctic visibility is only 150 to 300 yards.

Q. And what about observation?

A. Observation is also excellent in this type of climate. Movement is easily detected because of the tracks left in the snow. Although observation may be good, emplaced weapons will sink in deep snow. As a result it is necessary either to place weapons on a platform of some kind or to dig fields of fire through the snow. Because digging lanes for firing sacrifices concealment, it is best to build platforms on which weapons can be placed. However, material is not always available for that purpose.

Q. What about cover and concealment?

A. Movement of troops in open areas is almost impossible to conceal. White camouflage covering should be used for troops and equipment to reduce the ability of the enemy to observe movement on the ground. However, the ability to cover up routes of movement from air observation depends upon the ability of friendly aircraft to prevent such observation. Ice fog forms over firing weapons in some weather conditions, revealing the firing positions. It is difficult to conceal defensive positions in deep snow because fire lanes must be dug. Adequate cover can be achieved in wooded areas by placing log covers over positions. Frozen ground will, however, cause difficulty in digging in the positions. Because of the lack of natural cover and concealment, deceptive measures are often taken.

Q. What are some of the seasonal problems that will confront us? Let's start with winter.

A. Extreme cold is itself a major problem. It becomes necessary to erect warming tents or huts, requiring extra labor and equipment. Deep snow is an obstacle to movement. The individual soldier should exercise care in keeping his clothing dry and his weapon clear. Low temperatures reduce the ability of the individual to remain in the line fighting for extended periods of time.

Q. What about summer?

A. Arctic and sub-Arctic areas contain many bodies of water that are not frozen during the summer months. In many cases they cannot be crossed without major engineer support. Unfrozen muskeg* causes many areas to become boggy and these areas often must be bypassed since they will not support foot troops or vehicles.

Q. And what about the thawing season?

A. During this season large areas are inundated by casual water from thawing streams or lakes. These waters cover usually large areas that can normally be traversed during the winter and summer months. Of course, unfrozen muskeg presents the same obstacle to movement that it does during the summer months.

Q. Do you believe we can learn to overcome a great many of these problems with proper training?

A. I certainly do.

Q. Is there something you can tell us about avenues of approach?

A. Yes, there is. You see, routes of approach are very limited. The usable routes will vary with the weather. Of course, roads and railroads are very few in most areas of snow and extreme cold. In some of these areas rapid changes in weather conditions make air routes unreliable.

Q. Would you comment briefly on how avenues of approach are affected by the seasons?

A. Well, during the w i n t e r months the best avenues of approach are frozen lakes and streams that will support both foot and motor movement. All areas can be crossed using snowshoes and skis, but the powdery snow makes movement slow. Low ground where the snow has melted and the area is not covered by inundated spots and muskeg makes the best terrain for avenues of approach during the summer months. Also foot trails and unimproved roads, uncovered after the snow has melted, will furnish additional routes for movement. The thawing season is the poorest time of the year for movement because of the seasonal obstacles previously mentioned. The only reliable routes for movement are existing roads or trails that are not subject to frequent snow slides. *Attacks are channelized particularly during this season.* Good avenues of approach are limited to those areas that are free of unfrozen muskeg and overflowing streams and lakes.

* Muskeg is a kind of bog or marsh formed by the deposit of thick layers of decaying vegetable matter, mosses, etc., in a depression or hollow in the earth's surface.

TACTICAL OPERATIONS — ATTACK

Q. Do you consider surprise an important offensive tactic in snow and extreme cold?

A. I'll say this, while all principles of war apply, the principle of surprise deserves special consideration. It is desirable that surprise be attained in order to defeat the enemy quickly and thus avoid exposing troops to rigors of the elements any longer than absolutely necessary. We must mention, however, that surprise is very difficult to achieve in the Arctic.

Q. Is reconnaissance important?

A. It certainly is.

Q. Would you tell us exactly how?

A. First of all, ground reconnaissance is limited to short distances from the troop areas because of the difficulty of movement and the effects of excessive exposure. This limitation does not minimize the importance of reconnaissance and the security it furnishes. The life of any force may depend upon the knowledge of the whereabouts of the enemy at all times. When parallel routes do not exist for movement of security and reconnaissance forces, flank patrols should be rotated frequently. When the main body is assembled, patrol bases should be established several miles from the camp or assembly area of the main body. Also reconnaissance patrols operate from these bases. Patrol bases should be organized so that shelter and hot meals can be provided for the patrols. The shelter will consist usually of tents. Additionally, patrols will operate between the base camp and the patrol bases.

Q. Should air reconnaissance be used whenever possible?

A. By all means. Air reconnaissance must be fully utilized — weather permitting. In most areas the weather conditions are not a hindrance to air reconnaissance, and this means of reconnoitering may furnish the commander with an abundance of information concerning the location of the enemy forces. Higher headquarters should be requested to furnish information not available to lower units.

Q. Does the selection of objectives in cold weather operations differ from the selection of objectives in normal type operations?

A. That's difficult to answer. In modern climates or usual terrain, objectives are critical terrain features or localities that contain hostile dispositions. Such features are hills that usually provide observation over the zone of action. They should be recognizable, provide for a convergence of effort and facilitate future operations of the unit. All these factors are equally true in areas of extreme cold. The difference, and this is what is important, lies in what constitutes critical terrain features. In the Arctic and sub-Arctic, terrain is considered most critical when it controls shelter or routes to areas providing shelter. Our attacks in those geographical areas are usually launched against wooded areas, towns or villages and supply installations that provide the enemy with tentage, clothing and food.

Infantrymen, dressed to fight in the snow and extreme cold, move out from bunker positions on patrol duty.

Q. What are the characteristics of assembly areas?

A. They have the same general characteristics in the Arctic and sub-Arctic as in other type operations.

Q. Could you be more specific as far as our topic is concerned?

A. I think so. In many areas of snow and extreme cold, sectors that provide natural protection against the elements cannot be found. Existing shelter should be used as assembly points whenever possible. The lack of such shelter may require the use of tents or field expedients to provide necessary protection against the weather. Desirable assembly areas are difficult to find. Because of the physical inability of troops to withstand extreme cold, to move long distances and then fight at the end of a march, and because of the short period of daylight during most months of the year, assembly areas are closer to the enemy than visualized in normal offensive operations. They are located as close to the front as enemy reconnaissance permits. Also, assembly areas should be organized into a base camp from which the operation is conducted. These areas should be moved as the attack progresses or as the withdrawal demands.

Q. What does the form of the offensive maneuver depend upon?

A. Terrain and weather. Of course, maximum maneuver is always sought.

Q. Isn't it true that maneuvers are restricted greatly during the thawing season and attacks channelized more during that season than any other time in the year?

A. Yes, it is.

Q. What must we know about movement in formation?

A. When moving to a contact point, units should move using multiple routes in an approach march formation. Movement in a single column is dangerous because the

enemy can employ surprise. Also, they may use cutting attacks to assist in the destruction of the column. The main objective should be to use as many routes as possible and still concentrate for the attack. Subordinate units moving on multiple routes should be within reinforcing distance of each other. Scarcity of routes, and difficulty in breaking trails, maintaining direction and provision of flank and rear security while moving forward are all important factors to consider in choosing the formation to be used.

Q. Will penetration be important in this type fighting?

A. Yes. In many cases this may be the only form of attack that can be employed. Penetration units should hit weak points in the enemy column or lines while the remainder of the enemy is being harassed. Companies and platoons are often used to make independent harassing attacks to stop the enemy from reinforcing other endangered parts of his defensive positions.

Q. Is envelopment effective under these conditions?

A. As in normal type operations, envelopment produces the most decisive results. Overall plans for a large force will be for the envelopment of the enemy's main force. In such a case we may expect the bulk of the unit to envelope while smaller units penetrate, isolate and cut into segments. To get maximum results, envelopment must be executed with utmost speed from an unexpected direction against the weakest point in the enemy's defense.

Q. In the plan of supporting fires, how are weapons employed?

A. In the same manner as in normal type attack situations.

Q. What are some of the problems we will encounter in supporting fire?

A. The chief problem is getting the heavy weapons into position to give close support. Deep snow limits effectiveness of fire. Air bursts are very effective. As a result, the problem of selecting firing positions becomes magnified. Mortars and light weapons take on added importance. Supply of ammunition is difficult because of the absence of roads and railroads. The bulk of ammunition will probably have to be hand carried. When weather permits, aerial resupply may be utilized.

Q. Can we draw any kind of a conclusion to this question?

A. I don't know if this can be considered a conclusion or not, but I believe the use of mortars and light weapons takes on added importance for the reasons I have just mentioned. I think we can say that with the limitations caused by deep snow upon the effectiveness of point detonating fire, the best effects of fire support are obtained from air bursts.

Q. How should the attack be conducted?

A. I would say a series of small unit actions of short duration with

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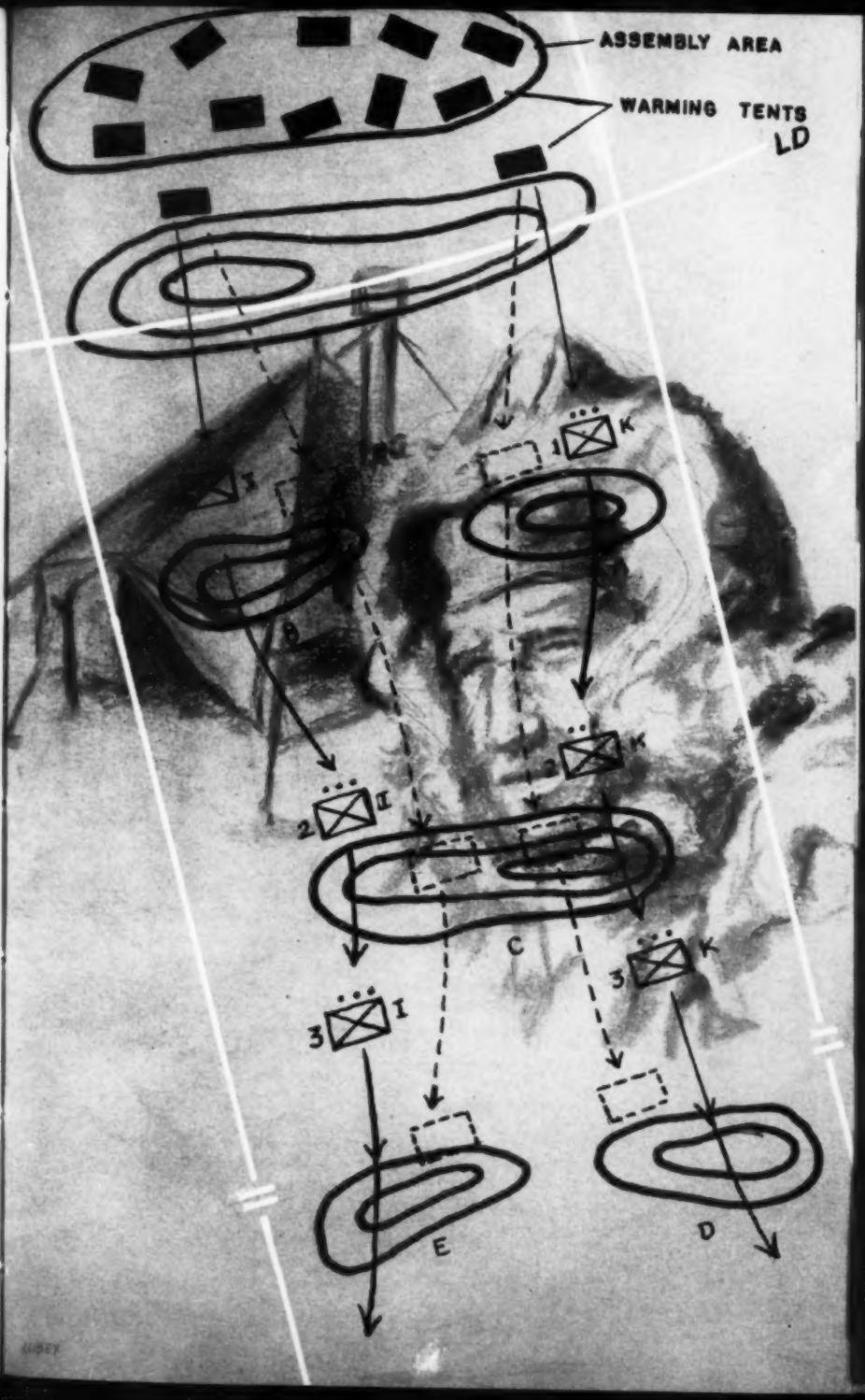
The lack of natural shelters requires the use of warming tents for protection against long exposure to extreme cold. This map illustrates where the tent area should be located in relation to units and how the tents are deployed while the troops are on the move.


ASSEMBLY AREA
WARMING TENTS
LD
1 K
3
2 II
2 K
C
3 K
3 I
E
D

each unit self-supporting, should initiate the attack. Exposure to the elements causes men to become exhausted very quickly. This makes frequent rotation of the attacking squads imperative. Warming tents close to the front lines should be used to provide shelter for the rotated units.

TACTICAL OPERATIONS — DEFENSE

Q. What factors will give the defenders the advantage?

A. Generally speaking, the inability of the attacking units to maneuver rapidly and the hardship of attempting to exist in cold climates.

Q. Is perimeter defense feasible in snow and extreme cold?

A. Oh, yes. Because of the characteristics of the terrain in Arctic and sub-Arctic areas, the best suited defense for these zones is the perimeter defense. Each unit from the battalion up must be prepared to defend from any direction. Limitations on mobility make it necessary for counterattack forces to be placed close to front line installations. In deep snow, fire lanes are difficult to conceal and for this reason dummy lanes are dug in abundance to deceive the enemy in his search for the location of friendly weapons. Warming tents or huts should be erected in the center of the perimeter and should be occupied by the bulk of the friendly force until the enemy is engaged. A minimum of personnel should be used to man observation posts and weapons until the enemy approaches. As in the attack, units are rotated from the front lines to warming tents at frequent intervals.

Q. Are basic retrograde movements used in this type warfare?

A. An Infantry Regiment employs the same system for withdrawal in all type areas.

Q. Is night withdrawal preferred whenever possible?

A. Yes.

Q. What additional precautions must be taken?

A. All shelters that might be of use to the enemy should be destroyed. Supplies and heavier equipment should be evacuated early. When maximum delay is required, extensive use of mines should be made. Roads and existing trails should be carefully and thoroughly mined to impede the progress of the enemy and allow our forces to execute a well planned and orderly withdrawal to previously selected defensive positions.

Q. In conclusion, do you believe that the Infantryman would adapt himself rapidly to operations in snow and extreme cold?

A. The American Infantryman is smart — adaptable — and with the proper training he would be among the world's best fighters in snow and extreme cold.

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the case of the

US SNIPER
CARDED

SHERLOCK HOLMES and Doctor Watson, modern military experts, were reading manuals in their Baker Street lodgings one winter's evening.

Suddenly the good doctor looked up from his book and broke the silence. "The U.S. sniper," he said pensively. "There's a mystery for you, Holmes. Who is the U.S. sniper?"

Sherlock Holmes' thin lips formed a fleeting smile. "Elementary, my dear Watson. There is no such person."

"Uh, what do you mean, Holmes?"

"I mean," said Holmes, "that a sniper is a specialist, a man with particular skills. I understand that today's U.S. military training does not recognize this fact. It follows then that the U.S. Army has no trained snipers."

Sherlock Holmes is right. This little fantasy is only meant to show that if we are to have snipers, we will have to make changes in the training, equipment, employment and concept of the sniper. He is a specialist who must have certain characteristics, skills and duties. Let's see what these are.

To compare the skills of the expert sniper with those of the average rifleman is like comparing the skill of the chef of the Waldorf-Astoria with that of a short-order cook at a hamburger stand. The sniper must be an expert rifle shot, skilled in observation, camouflage, concealment and individual patrolling. He must like to work alone or in small groups and must be capable of making decisions for himself.

The sniper's job is to select, move to, prepare and occupy a position from which he can get maximum observation of the enemy without being detected. From here he must kill enemy personnel with a single

CWO WILLIAM F. ODOM

shot. Logical targets are enemy snipers, troop leaders and observers and gunners of support weapons. When these targets are unavailable, he will kill any enemy soldier in order to harass and demoralize the enemy, deny him use of critical terrain features, or restrict his movement.

The sniper's normal minimum range is 400 to 500 yards, while his maximum range is about 1,000 yards. His targets are so small and so distant that they are beyond the range of other riflemen.

We do not have men trained or equipped to do this job. I will try to show in these pages that the Infantry needs snipers. Today's deemphasis of the sniper is based on three often-quoted arguments: That snipers can be used only in stabilized warfare; that specially trained and equipped snipers are not needed, since every unit has enough crack shots to perform a sniper's mission; and that our present program is the best possible, because it comes from many years of experience. But can these arguments stand up under examination?

"Snipers can be used only in stabilized warfare." This idea originated in World War I, but, unfortunately, it was unknown to the Chinese and North Koreans. Our enemies in Korea used snipers effectively even in the early, mobile phases of that conflict. Returnees from Korea have reported that if we had had snipers during that period, they could have been used effectively in the attack and withdrawal, as well as in the defense.

The Germans and Japanese selected, trained, equipped and successfully employed snipers in all theaters and all phases of World War II. The British revised their sniper training program during this conflict, and by the end of the war were using trained snipers.

U. S. commanders in Korea soon realized that the only effective countermeasure against enemy snipers was to have better trained and better equipped snipers to eliminate them. The need for snipers became so critical that individual commanders established s n i p e r schools in and behind the front lines in Korea. But they did not have the time, facilities or qualified teachers to train these specialists adequately. Sniper training must be accomplished in the States.

The second argument is: "Every unit has enough crack shots to perform any sniper mission that might come up." This might have been true during the Revolutionary War or the War Between the States, but it is not today. With surprisingly few exceptions, the shooting experience of men coming into the Army is confined to winning a kewpie doll at a shooting gallery. If we want master shots and master woodsmen today, we must select and train them. They just don't come ready-made any more.

The third argument goes: "Our present sniper program is derived from years of experience, and cannot be improved upon." Well, let's examine our present program. The Tables of Organization and Equipment provide for one sniper's rifle (M1 C) per rifle squad in Infantry, Airborne Infantry and Armored units. This rifle is a standard M1, equipped with a 2½-power tele-

scopic sight mounted on the left side of the receiver, a cheek pad attached to the left side of the stock, and a flash-hider.

There is no standard for selecting the man to be armed with this rifle. In some squads the rifle is issued to an expert rifleman or a sharpshooter; while in others, where there are no experts or sharpshooters, it is issued to any rifleman. This sniper's primary duty is that of a rifleman and member of the squad team. Since he is trained as an ordinary rifleman, he does not receive advanced training in marksmanship, observation or movement.

In action the squad's sniper is required to move and take positions with the squad and cover his portion of targets. Thus, even if he had been trained to deploy himself and to use his weapon properly as a sniper, he would not have the opportunity to do so.

If the man armed with the sniper's rifle is to remain in his present T/O&E position and be trained and employed in the present manner, he should use the standard M1 rifle. The telescopic sight, flash hider and cheek pad are expensive items, add weight to the rifleman's load, and are useless to him. But if we are to have properly selected, trained, equipped and employed snipers, the present sniper weapon is inadequate. The trained sniper needs a rifle that is extremely accurate at maximum ranges, but not necessarily one that can lay down a heavy volume of fire.

The present 2½-power sight is inadequate for sniping. It has one-minute clicks of windage and elevation, adequate at ranges up to 500 yards; but at 1000 yards one click will move the strike of the bullet 10 inches. If the sniper missed an enemy soldier's head at 1000 yards and took one click of windage, his next round might easily miss on the other side of the target. For the ranges that a sniper uses, a sight with quarter-minute clicks is needed.

Tests have been made with a four-power telescopic sight, and it is hoped that this sight will soon get official approval. But there are so many 2½-power scopes in existence that it will probably be years before the four-power scopes are procured. The flash hider is the one bright spot in the sniping picture. A superior—almost perfect—flash hider has been tested and standardized for the sniper's rifle.

FM 21-75 outlines an 80-hour proposed sniper training program. Since this program could not be applied by our rifle squad's sniper, and since no time is allocated for it in Army Training Programs or Service School Programs of Indoctrination, it is generally ignored. D/A TC20, 1952, outlines the desired characteristics, training and employment of the sniper; but it does not provide time to select and train him, nor does it make his training mandatory.

This is the extent of our present sniper program. It has not produced snipers in the past, and it will not produce them in the future. It is necessary that a program capable of producing snipers be placed into effect. I believe that the following program would be successful if adopted.

First, a Sniper Instructor Course should be established at The Infantry School. In addition to teaching the finer points of shooting, tactics of the individual soldier, and intelligence work, this course would include an instruction course and an outline for progressive advanced sniper training. The experienced junior officers and senior NCO's graduated from the course would return to their units to become regimental sniper officers and battalion sniper squad leaders.

Second, a Basic Sniper Course should also be established at The Infantry School. This course would train and qualify sniper candidates in advanced phases of map reading, camouflage and concealment, and patrolling. After graduation the sniper would return to his unit for assignment to the battalion sniper squad.

The men chosen to attend these courses should be expert rifle shots who are in top physical condition. They should not only have shown adaptability for sniper work, but should also be volunteers for this kind of duty. Upon graduation these men should be awarded some distinctive emblem or insignia. It should be a command responsibility to select and send candidates to these courses until all vacancies within units are filled.

Third, the sniper's rifle in the rifle squads should be replaced by the standard M1. Snipers cannot be trained, employed or supervised adequately at squad level; and the M1 C is more of a liability than an asset to a rifleman.

Fourth, a sniper squad of about eight men should be established at battalion headquarters as an additional squad in the S2 section. The squad leader should be a graduate of the Sniper Instruction Course

In addition to being an expert marksman, the sniper should know how to use camouflage and concealment to his best advantage. This Infantryman displays camouflaging that will permit him and his weapon to blend into the coloring of the area in which he is operating.

and the squad members of the Basic Sniper Course. By organizing these specialists under the direct control of a highly qualified sniper sergeant—and under the supervision of the battalion intelligence officer—proper employment of the squad will be insured.

And last, a test should be conducted to determine the best rifle and telescopic sight for the sniper. The best commercially manufactured sporting rifles, as well as standard and test models of military weapons, should be tested—both with and without telescopic sights. The sights tested should be stronger than 2½-power and should be capable of finer adjustment than one-minute angles of elevation and windage.

The cost of equipping our snipers will be negligible. Each of the 27 M1 C sniper rifles now issued to the battalion costs $120.68 more than a standard M1 rifle. If we replace them with M1 rifles we will save $3,258.36 per battalion. That will give us $407.29 to equip each of the eight snipers in the new squad. With this we can equip him with the finest rifle and sight manufactured. And there will probably be enough money left to pay for spotting telescope or binoculars, watch, camouflage clothing and other special equipment needed by a sniper.

How will we use our trained snipers? He will be most effective in a stabilized situation where he will have ample time to select and prepare positions, observe the enemy and select targets. He can, however, be used in other kinds of situations to infiltrate through enemy lines, kill and harass the enemy, and disrupt hostile communications and supply lines. He can be used in the attack to kill machine gunners and heavy weapons crews, and to button up pillboxes by placing accurate fire on them while the maneuvering elements close in.

The sniper can be effective in street fighting, especially when areas change hands frequently. He can occupy a position, wait until the enemy has acquired that area, and then make an occasional kill to keep the enemy demoralized and unsure of his rear. He can screen a withdrawal by placing accurate fire at long ranges, causing the enemy to deploy or at least to take cover and approach with caution. Then the sniper falls back and repeats the process from his next position. In this way, the sniper gains time for the main force to occupy and consolidate new positions.

Combat reports from World War II and Korea prove that in actual enemy dead the sniper will pay for the time and money spent to train and equip him. Yet even today we have no real program for producing snipers. Realizing that the sniper is a valuable specialist, we should make sure that we have efficient snipers in the future by some such program as I have outlined here. This may be one man's opinion, but you do not have to be a Sherlock Holmes to see that we cannot afford to wait longer.

Publication of this article should not necessarily be interpreted as reflecting the thought of The Infantry School or The Infantry School Quarterly.

WHAT's New!

The following information provides a means of keeping up-to-date on matters of professional interest.

Developed!

Operation Order. A new operation order recently became standard. Its five paragraphs are: 1) Situation; 2) Mission; 3) Execution; 4) Administration and Logistics; and 5) Command and Signal.

The new operation order will be integrated into The Infantry School's instruction on or about 1 July 1954.

For a detailed explanation of the new order read the July 1954 issue of THE INFANTRY SCHOOL QUARTERLY.

•

Camera that takes pictures underground. Developed by Army Engineers for underground observation in planning big construction projects, locating leaks inside pipelines, and spotting underground ore formations.

The new camera fits inside a hollow metal tube about three feet long and less than three inches in diameter. Near the bottom of the tube is a circle of quartz glass, backed by a mirror which reflects the wall of the hole. The camera takes pictures of the reflection and of a compass built into the device.

•

Pneumatic Saw. A lightweight, one-man portable, reciprocating-type, pneumatic-powered, wood cutting saw for possible Army field use is now under study. This saw utilizes two interlocking sliding blades each similar to the blades of a hand saw. It weighs approximately 15 pounds, is 46 inches long and is capable of producing a single cut of 21 inches.

•

Plywood Litter Poles, found satisfactory for use on litters, may ultimately replace aluminum litter poles. The plywood poles, however, will not replace aluminum poles on litters unless the allotment of aluminum becomes critical.

•

New method to parachute heavy equipment. Developed for use in the C-124 to drop a total of 40,000 pounds in a few seconds. The new device employs a pair of rails, a chain drive and specially designed pallets.

The aircraft is loaded with three packed pallets that are winched onto the tracks and into the aircraft through the nose doors. A hook on the bottom of each pallet engages the chain drive, thus securing the pallets and cargo.

When the drop zone is approached the tie-downs are removed and the aft doors in the bottom of the aircraft are opened. The chain drive pulls the cargo to the open door, allowing the cargo to fall out.

Under Study

Night Simulator Training Aid in the form of goggles with lenses that could cut out varying degrees of light. The goggles would be worn during daylight problems and could be adjusted to simulate different degrees of darkness. The instructor (who would not wear the goggles) could watch and correct mistakes that might normally be made under darkened conditions without being hindered by actual darkness.

•

Chromium plated barrels for small arms to determine whether they require less maintenance and whether this maintenance is simpler to perform.

•

New type of overwhite clothing for arctic wear. This new material being tested contains a different type of reflecting quality than present day overwhite clothing.

•

Dry cell vest batteries for use in the AN/GRC-8, AN/GRC-9 and the AN/PRC-10 radio, under arctic conditions.

•

A lightweight compact device, designed to rapidly reproduce any required number of finished black and white prints from an infra-red transparency taken with a "Land" polaroid camera. Reproduction of 20 prints per minute within 60 seconds after activation would permit the forward ground commander to have quality aerial photos of enemy positions within 10 to 15 minutes after location by liaison type aircraft. The device would weigh less than 15 pounds and be no larger than 18 inches in length, 8 inches wide, and 12 inches in height. No fluids would be employed in the development process taking place within the rugged weatherproof case.

•

Smoke generators for use in arctic climates. The unit would be gasoline powered and capable of converting into smoke 25 to 50 gallons of fog oil per hour.

It would consist of a power group (gasoline pulse jet engine and ignition system) and a smoke fuel group (oil flow control valves and filter) encased within an insulated cylindrical shell. Mounted above the cylindrical shell would be a rectangular gasoline tank and a box for spare parts, tools and batteries. There would be two litter-type carrying handles attached to a tubular frame welded around the outside of the entire assembly. There would also be a canvas cover to provide protection. The generator could be operated on the power equipment found at battalion or regimental level.

•

Squad and two-man type tents for arctic use. The tests are to determine the best tent for cold weather purposes.

Training Circulars

Training Circular 27*, **"Night Firing of the M1 Rifle Without Artificial Illumination,"** is now being distributed. This circular prescribes a training program to develop the ability of the rifleman to fire his rifle accurately at night and during periods of low visibility when no artificial illumination is used. Also included is a night firing course used to test the proficiency of riflemen on the completion of their training. (See "Operation Moonlight" in the January 1954 QUARTERLY)

•

Training Circular ( )*, **"The T-10 Troop Parachute,"** has been sent to OCAFF for approval. It describes the characteristics, capabilities and limitations of the **new** T-10 troop parachute. It explains how to wear and use this type parachute and describes the modification that must be made in the C-46 and C-47 troop-carrier aircraft for parachutists wearing the T-10.

New and Approved

Uniform labels. Circular 106 and Change 3 to SR 600-60-1 requires that the emblem "U.S. Army" be worn on the upper left breast of certain garments to add distinction to the uniform. The garments designated to carry this insignia are: 1. Jacket, field, shell; 2. Jacket, utility; 3. Parka, shell, and, 4. Wool field shirt.

The emblem consists of golden yellow block letters three quarters of an inch high on a black background. The emblem was expected to become available on 1 March 1954.

•

Graphic Training Aids for use in mortar instruction. Large enough to accommodate a class of about 40 students the following GTA's may be drawn through any Army training aid center:

GTA 7-5 Theory of Target Grid System
GTA 7-7 Technique of Indirect Fire, 60mm Mortar
GTA 9-624 Mortar, 60mm M19
GTA 9-625 Mortar, 81mm M29
GTA 9-626 Mortar, 4.2 inch M30

Army Training Tests

Infantry Army training tests are currently being revised at The Infantry School. The revisions will generally follow the form of the present ATT's 7-13 and 7-25 (rifle squad and rifle platoon). More emphasis is being placed on a standardized test and a more complete test from the umpire's viewpoint. In all of the tests the umpire check sheets are being revised to eliminate non-specific questions.

* Number not assigned.

Manuals

Revised. FM 21-150, **"Hand-to-Hand Combat,"** has been sent to OCAFF for approval and publication. This manual is a complete revision of the old **"Unarmed Defense for the American Soldier."** The new manual emphasizes attack rather than defense.

•

Change 1 to FM 23-80, **"57mm Rifle M18A1,"** has been forwarded to OCAFF for approval. It is devoted to describing, illustrating and explaining the operation of the new 57mm rifle M18A1, which has replaced the M18.

•

Change 2 to FM 21-18, **"Foot Marches,"** has been sent to OCAFF for approval. This change adds more information about march hygiene, march safety and march sanitation.

•

Change 3 to FM 21-75, **"Combat Training of the Individual Soldier and Patrolling,"** has been sent to the printer. This change is devoted entirely to information on the new sniperscope, infrared set No. 1, 20,000 volts. It discusses the principal parts, the method of mounting and dismounting the sniperscope on the carbine, the details and principles of operation, safety precautions, adjustments in zeroing, maintenance and employment.

•

Change 4 to FM 23-30, **"Hand and Rifle Grenades,"** has been sent to the printer. This change supersedes all previous changes. Additions include a discussion of the **new** M26 hand grenade and a **new** hand and rifle grenade qualification course.

•

Change 4 to FM 23-92, **"4.2-inch Mortar, M2 and M30,"** has been forwarded to the printer. It contains new information on the use of smoke and the new subcaliber assembly for the M30 mortar.

Training Tip

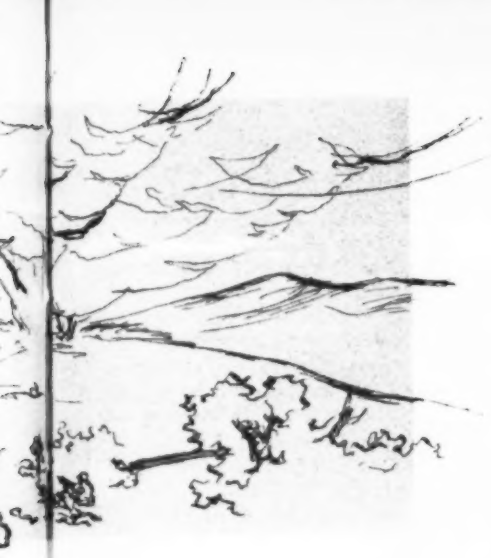
Blank firing attachment for machine gun, caliber .30, M1919A6. The October 1953 issue of THE INFANTRY SCHOOL QUARTERLY carried an article on the blank firing attachment for the light machine gun. Since then in several tests the blank attachment has ruptured and pieces have been thrown up to 100 feet in front of the machine gun.

When using these attachments, personnel are cautioned to stay 125 feet in front of each gun to avoid possible injury.

fire

"WE HAD PLENTY of supporting fire, but we didn't always make the most of it. We stayed too far behind the fires and lifted them too soon. By the time we arrived on the objective, the communists had recovered from the shock and were willing and ready to meet us."

This comment by an Infantry commander who fought in Korea sums up well the thoughts of many leaders both from that recent conflict and from World

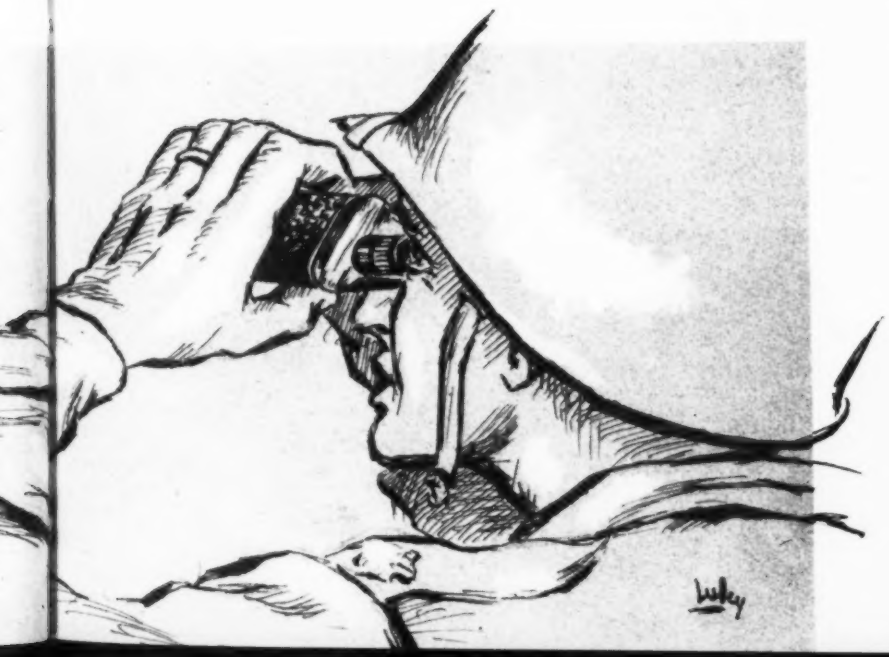


CARDED

COL FRANK T. MILDREN &

MAJ ALEXANDER R. BOLLING

rsupport PLANNING



War II. We had an adequate fire support plan to cover our advancing troops up to the assault position. But our planning for fires during the assault often fell short.

In training we rightly insist on safety precautions. We must not, however, let these precautions dominate and prescribe our doctrine. If fire support is to be effective, the assaulting troops must "lean into" the fires, which must continue until the safety of the Infantry is actually endangered.

The fire plan must include all usable weapons. It must cover the period of time from the opening of preparatory fires through the reorganization on the objective. It follows then that commanders of small units, including rifle companies, must understand the characteristics of all types of supporting fires and must have confidence in the fire support elements.

The responsibility for planning supporting fires rests with the commander at each level. At battalion and regiment the plan is detailed. Each company commander should be given a copy of the battalion fire support plan. When there is not enough time to do this, the company commanders must at least understand the portion of the plan covering their companies' zone of action.

Planning — Regiment

Starting with regiment, let's see how fire support planning is actually accomplished. The regimental fire support coordination center (FSCC) coordinates all fires available to the regiment, and formulates the regimental fire support plan. The FSCC is usually located in the regimental command post, close to the S3 section. It consists of:

1. Direct support artillery battalion commander or his representative. This officer is designated as the Fire Support Coordinator (FSC) and functions in a manner similar to a special staff officer for the regimental commander.

2. Regimental S3 or representative. The regimental S3 exercises unit staff supervision in the name of the commander.

3. Heavy Mortar Company representative.

4. Forward Air Controller (FAC).

5. Direct support artillery battalion S3 and S2 or representatives.

6. Counterfire officer or representative.

7. Representative of other fire support agencies supporting the regiment as a whole. Example: Naval Gunfire Liaison Officer.

After receiving the division order for an attack, the regimental commander makes a tentative plan of action, which includes his plan of maneuver and the preliminary fire support plan. In the latter, he tells the FSCC the general areas for which he wants fires planned.

Upon receiving the battalions' requests for fires, the FSCC checks them against the regimental fire plan in order to make sure that specific concentrations have been planned to include the areas selected by the regimental commander. A common numbering system is used, so that the number assigned to a particular area is the same for all weapons supporting the attack.

The completed regimental fire plan may be given with the attack

order or later. It must, however, be given to each subordinate unit and fire support agency soon enough to be put into effect.

Battalion

As soon as he receives the regimental warning order, the battalion commander makes a tentative plan of attack. He then begins his fire support planning by telling his staff and his FSCC the general requirements to be considered. He plans his fire support in much the same manner as the regimental commander. The battalion FSCC is usually composed of:

1. Artillery Liaison Officer, who is normally designated as fire support coordinator.

2. S3 or his representative. The S3 exercises unit staff supervision in the name of the commander.

3. Heavy Weapons Company Commander.

4. Representatives of other fire support agencies supporting the battalion and not attached to companies.

There must be close coordination between the fire support unit representatives with the rifle companies and their corresponding representatives in the battalion FSCC. Before the attack, fire support unit representatives with the rifle companies should submit requests for fires to the fire direction centers of the fire support units. These requests go through the artillery liaison officer or heavy mortar company liaison agent at battalion. If they are approved by the battalion commander, they are included in the battalion fire support plan.

The battalion FSCC develops a detailed and coordinated fire support plan before the start of the attack. It monitors fire control nets to keep abreast of fire support units' situation, insures that friendly troops are not endangered by supporting fires, and arranges for augmentation of fires wherever necessary. It also advises the battalion commander as to the most effective employment of fire support during the attack.

"Fire support planning requires detailed, painstaking coordination. Our object is to make sure all the fighting tools, men, weapons, supplies and terrain perform as a team in a well-laid plan. Everybody must get the 'word'."

Maj Gen G. S. Meloy, Jr.
Commandant
The Infantry School

Company

The rifle company commanders plan the fires in their portion of the battalion zone of action. These plans include the fires of direct and indirect fire weapons organic to and attached to the rifle company, as well as artillery, mortars and battalion or regimental direct fire weapons that will be used to support the company attack.

The rifle company commander does not have an FSCC. In making his fire plan, he is assisted by his weapons platoon leader, the leaders of attached fire support units, and by the forward observers of other fire support units operating with the company. The company fire support plan is the final plan for using the fires available to sup-

port the company plan of maneuver.

Platoon

The platoon leaders must make sure that targets within their portion of the company zone are included in the company fire support plan. Since it is seldom feasible to resupply the platoon with ammunition during its movement from the line of departure to the assault position, the platoon weapons should be fired as little as possible before the assault. The maneuver to the assault position should be covered by other supporting weapons.

Detailed Planning

From regiment down to platoon, the plan of maneuver and the fire support plan are prepared simultaneously. The dissemination of appropriate information to all echelons at the earliest possible moment will allow concurrent planning and reconnaissance. As the plan of maneuver is developed, additional requirements are incorporated into the fire support plan.

During the attack, the regimental and battalion FSCC's become information and fire support planning centers. While the FSCC is not in the direct channel for fire requests, it may advise the commanders when other or more appropriate weapons are available. For example, the battalion commander requests artillery fire* on a specific target. The regimental FSCC may advise the battalion commander that heavy mortar fires are available to augment the artillery fires, or that the mortar fires are more appropriate to be used alone for this particular mission.

The rifle company commander lifts and shifts supporting fires as the progress of his troops dictates. When necessary, he calls for additional fires on targets of opportunity. The forward observers must stay in communication with the rifle company commander at all times. By using the common numbering system, the company commander can designate targets to any one or more of the weapons capable of engaging a given target, giving only one number for that target.

The Assault

The most critical phase of any attack is the assault. During this phase, it is essential to place as much supporting fire on the enemy position as possible, and to continue that fire as long as the safety of the assaulting troops will permit. Some type of fire must continue to neutralize the enemy until the objective is actually seized.

Fires of the various weapons should be lifted or shifted progressively. Weapons with the greatest accuracy, smallest range probable error, and smallest bursting radius should continue firing the longest. As one type of fire is lifted or shifted, other weapons still firing will increase their rate of fire. Before the attack, the attacking rifle company commander should decide exactly when he will shift the fires of each indirect fire weapon. Direct fire weapons will lift or shift their fires when their fires become masked, or on call of the company commander. Since tanks can move and deliver fire until the seizure of

* During the attack the **artillery no-fire** line is established by the Direct Support Artillery commander in coordination with the supported commander.

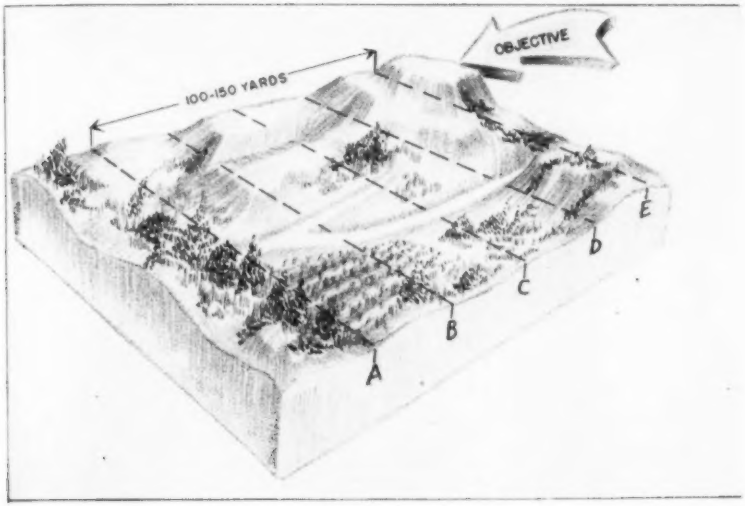


Figure 1.

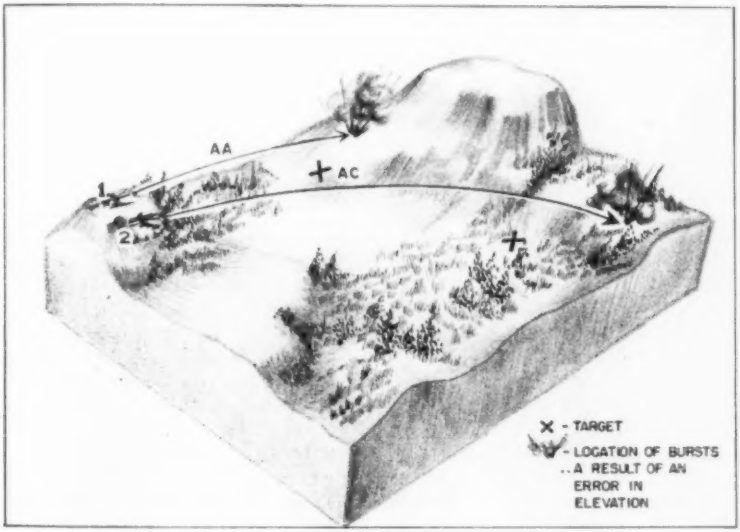


Figure 2.

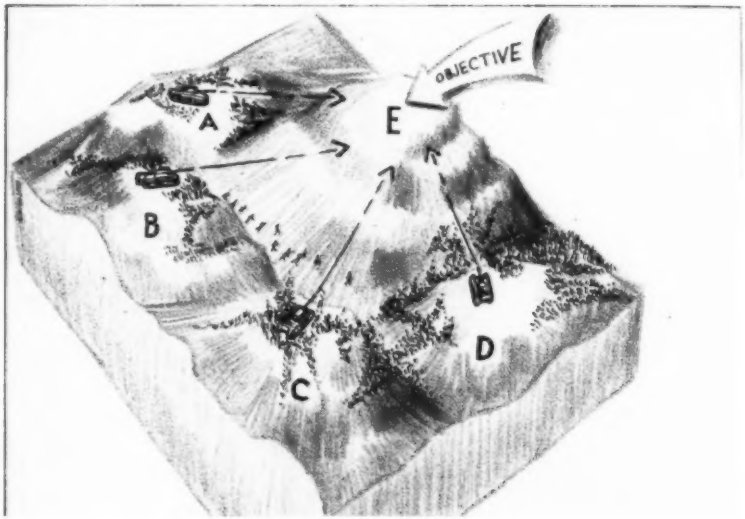


Figure 3.

the objective, they are particularly effective during the assault.

In planning for the use of indirect fires, the company commander should consider the time of flight of the projectile and the minimum distance which his units can be from the center of impact of the fires without receiving excessive casualties from friendly fires. He should plan to call for the shifting of those fires in time to have the last rounds land on the objective area just as the assaulting platoons arrive at the point considered to be the minimum safe distance.

At no time should the forward movement of the assaulting units be halted because of friendly supporting fires. As a general rule, assaulting units can safely advance to a distance of four range probable errors of the desired center of impact of the supporting weapon. Under average conditions, assaulting troops can advance safely to within the following distances of the objective:

105mm howitzer fire — 120 yards
4.2-inch mortar fire — 120 yards
81mm mortar fire — 80 yards
60mm mortar fire — 60 yards

These are guide figures with which a company commander can begin his planning. They are based on the assumption that the weapons are located behind the attacking troops, that the range from the weapons to the objective is that which is desirable for an initial attack, and that the slope of the objective area does not materially affect the bursting radius of the projectile.

Figure 1 can be used as a rough guide. The company commander will shift the artillery and heavy

mortar fires just before leaving the assault position (Line A). At Line B, just as the platoons are leaving the assault position, he will call for the shifting of 81mm mortar fires, so that these fires will have ended when the assaulting units arrive at Line C. The fires of the 60mm mortars will be shifted between lines B and C, so that they will have stopped by the time the rifle units arrive at Line D.

From Line D to the objective, the assault will normally be supported only by direct fire weapons. These fires should also be lifted or shifted progressively, the idea being **to maintain the fire of all weapons until the last possible moment.** In planning for the use of direct fire weapons, added emphasis must be placed upon the bursting radius of fragment-producing weapons and the probable errors of each of the weapons.

Other Considerations

Consideration also must be given to the location of the supporting weapons and the type of terrain over which the action will take place. The probable errors for such weapons as the 90mm tank gun and the recoilless rifle are normally considered in terms of increase or decrease in elevation of the tube rather than in yards of range on the objective area. This is necessary because of the flat trajectory of the projectile of these weapons and the variability of terrain over which attacks are executed.

Figure 2 demonstrates this principle. If the terrain follows the profile of Line AA, a one- or two-mil difference in elevation would not materially change the spot where the projectile would land. On the other hand, if the terrain is like that of Line AC, a one-mil error in elevation might cause a 100- or 200-yard change of the spot where the projectile would land.

Consideration must also be given to the lateral bursting radius of the direct-fire projectiles. It can be determined from the Weapons Data Chart (Figure 4) that the bursting area of 90mm shell is 40 yards wide and only 12 yards deep. Thus, in Figure 3, if a unit is attacking an objective on Hill E from Hills B and C, consideration must be given to the lateral bursting radius of projectiles fired from supporting weapons placed on Hills A and D.

Since direct fire weapons usually shift their fires when they become masked, it is vitally important that the gunners and leaders of the fire support units know the bursting radius of the shells they fire. The rifle company commander must also have this information so that he can complete his plan of fire support before the start of the attack, and integrate the fires of his own organic weapons to prevent unnecessary gaps in the coverage of the objective when the fires are lifted.

The primary job of the rifle platoon leader during the assault is to insure the continued forward movement of the platoon to the objective. The crew-served weapons organic or attached to the platoon usually begin firing as the rifle elements arrive at the assault position. They displace as necessary, to give the assaulting troops close support.

Rifle grenades may be fired on order of the platoon leader to fill unexpected gaps on the objective and to give the impression that

WEAPONS DATA—ORGANIC WEAPONS

WEAPON	NO OF WEAPONS RCT	BN	CO	MAXIMUM RANGE IN YARDS	MAX EFFECTIVE RANGE FOR WEAPONS FIRING PREPARATORY FIRES	BURSTING AREA W - WIDTH OF AREA D - DEPTH OF AREA LATERAL BURSTING RAD =1/2W BURSTING RAD IN DEPTH=1/2D	PROBABLE ERROR AT MAXIMUM EFFECTIVE RANGE (in yds) *R*-Range Prob Er. *D*-Deflection PE	TYPE OF AMMUNITION
90mm Gun	22	N/A	N/A	19,500	5,000 **	HE--- 40W x 12D	110 and 50D	HE, WP,AP, APC, WP
105mm Rec	12	4	N/A	9,350	2,000 **	HE--- 50W x 10D	11R and 2D	HE, HEAT, WP, WP
75mm Rec	6	2	N/A	6,950	1,000 **	HE--- 45W x 15D	8R and 1D	HE, HEAT, WP
57mm Rec	27	9	3	4,850	1,000 **	HE--- 14W x 10D	7R and 1D	HE, HEAT, WP
3.5" RL	86	20	3	900	300	20W x 10D	N/A	HEAT, WP
50 Cal MG	51	8	1	7,400	2,000	N/A	N/A	N/A
30 Cal MG	Rv-12 Lt-69	Rv-4 Lt-22	N/A Lt-6	3,500	2,000	N/A	N/A	N/A
4.2" Mort	12	N/A	N/A	6,000	3,000 **	HE--- 45W x 15D WP--- 20W x 20D	33R and 6D - HE 17R and 5D - WP	HE, WP
81mm Mort	12	4	N/A	HE Lt-3,300 HE Rv-2,600 WP ---2,450	2,000 ** 2,000 2,000	HE Lt--- 25W x 15D HE Rv--- 30W x 20D WP--- 20W x 20D	22R and 18D-Lt 22R and 8D-Rv 24R and 11D-WP	HE, LT, HE, HVY WP
60mm Mort	27	9	3	HE ---2,000 WP ---1,600	1,000 1,000 **	HE--- 20W x 10D WP--- 11W x 11D	16R and 5D-HE 12R and 6D-WP	HE, WP

RIGHT SIDE OF POINT OF IMPACT

D

I= Point of Impact

PROBABLY SIDE OF POINT OF IMPACT

* Note: The bursting area is a rectangular area which will be covered by the fragments of the projectile. The point of impact of the projectile for indirect fire weapons is in the center of the rectangle laterally and just beyond the center of the rectangle in depth, as indicated at the left.

** Note: These figures have been selected as maximum effective range for weapons which may provide close supporting for for attacking troops. Beyond these ranges the probable error increases greatly.

heavy fires are still falling. If fires have been adequately planned before the attack, and if the assaulting units remain as close to the planned supporting fires as safety allows, enemy units on the objective should remain completely neutralized until the assaulting riflemen arrive at the enemy position.

Reorganization

During the planning stage, protective fires should be arranged to cover the reorganization and consolidation on intermediate and final objectives. This planning is done at all levels. As fires on the objective are lifted or masked as a result of the advance of the assault units, these fires are shifted, and become protective concentrations.

In order to permit the firing of observed and unobserved fires without clearance from the units in an area, a no-fire line may be established. This is merely a line beyond which fires may be placed without clearance, and it does not influence in any way the fires requested and placed to protect the reorganization. The no-fire line should be far enough away from friendly positions to permit normal outposting and patrolling. At any time commanders can request an extension of the no-fire line beyond and to the flanks of areas through which patrols will be dispatched.

As soon as the objective is seized, the supporting weapons begin adjusting on those concentrations designed to protect the reorganization and consolidation. Those concentrations covering the most critical areas are adjusted first. When targets of opportunity appear they are fired on.

Once the objective is taken, the supporting weapons will usually displace to support a continuation of the attack or to gain range for placement of defensive fires. Units that have more than one firing element will frequently displace by

echelon. At times—when the fire of a unit becomes masked or when the commander orders it for some tactical reason—an entire unit may displace at one time. In this case, fires of other units can take over missions for a unit that is displacing. But normally, certain designated elements of direct fire supporting units will displace before the fires are masked. This ensures close and continuous support for the attacking units.

Conclusion

Flexibility in fire support, particularly the ability to mass fires rapidly, is one of the most important advantages our army has over the Communist armies we fought in Korea. But if we are to make the most of this advantage, our commanders must plan adequately for preparatory fires to cover both the Infantry's advance to the assault position and for the actual assault. All available fires must support the assaulting units until the last possible moment, so that the enemy has no chance to recover from the shock before the Infantry is upon them. In this way, with thorough planning at all levels, we can make the best use of our firepower.

. . . with sword and fire

The Infantryman has many weapons in his armory, all of them killers, but perhaps none is so feared by the enemy as the flame thrower. In the volcanic caves of Okinawa and the mountain positions of Korea, this gigantic blowtorch proved its worth, destroying the enemy when he was impervious to other more conventional weapons.

The Infantry's portable flame thrower may seem modern, but it is actually one of the oldest devices of war. Armies used fire long before gunpowder was known, and flame throwers are mentioned in the earliest military chronicles.

Five centuries before the Christian era, the Greeks were hurling fire at their enemies. A tree trunk was hollowed out and mounted on wheels. At one end was placed a pot filled with burning coals, pitch and sulphur. Using a pair of bellows, the ancient warriors would blow the flames through the tube in the direction of the enemy. Another primitive flame thrower, belonging to the medieval Turks, had a range of 100 yards.

Other less scientific contestants in battle merely threw burning oil at each other. But it was not until the Japanese, fighting the Russians in 1904, used compressed gases to shoot burning liquids, that the modern flame thrower was born.

Today's portable flame thrower is more than a deadly Infantry weapon. It is a grim reminder of the days when our ancestors fought each other "with sword and fire."

— Mr. Norman S. Poser

Meet The IG

LT COL ARLO W. MITCHELL

The IG is more than a "lofty power" who inspects once a year . . . here's how he can help you!

EVER SINCE the days of Baron Von Steuben, the Revolutionary War general who was the Army's first real Inspector General, the IG has maintained the Army's standards and protected the individual soldier from abuses.

Nevertheless, the average Infantryman has only a hazy idea of the job done by this vital office. He reads on his company bulletin board that he may take his complaints or grievances to the IG; and once a year he spends long hours preparing for the "IG inspection." But in the main he regards the Inspector General as a lofty power whose work affects him very little.

Actually the Inspector General can render valuable service to all military personnel, and especially to unit commanders. The IG is not an unapproachable character who has memorized all the Army's regulations and directives, but a human; mature officer, usually possessing a well rounded background of command and staff duty. A captain or above, coming from any basic or special branch except the Chaplains', or any of the various professional corps of the Army Medical Service, he is usually assigned to IG duty for a period of three years. Inspectors general are found in units of division size or higher and normally at most posts.

The IG has three main jobs: To conduct annual general inspections of installations and activities (the well known IG inspection) and such special inspections at other times as appropriate commanders may direct; to conduct such investigations as his commander or higher authority may direct; to receive complaints and grievances of the personnel of the command; and to insure that each complainant is advised of final action taken on his complaint.

Now what can the IG do for you? Like any other staff officer, he serves his commander and the troops. Let's discuss his responsibilities in more detail as they pertain to the unit commander.

Annual General Inspections. Your unit under normal circumstances will be inspected once each year by an inspector general and his "team." This team usually includes experienced Warrant Officers and Senior NCO's, each of whom will be a specialist in one or more fields. While the IG will make an inspection report outlining irregularities and deficiencies found, he will at the same time suggest ways and means of improving your command. He may also recommend commendations for outstanding meritorious achievement or service.

Minor irregularities or deficiencies found and corrected before the team leaves your unit are not normally reported. An example of this would be a superseded Army Regulation found in your files. If it were

immediately removed, the fact that it had been on file would not be included in any report.

Although the team experts will go through your orderly room, supply records, mess records, etc., the inspector general heading the team will always be seeking the answer to the vital question: "How well is this unit accomplishing its assigned mission?" If you are accomplishing your mission in an outstanding manner, you need not worry about a reasonable number of minor irregularities or deficiencies that may be found, as long as they are immediately corrected.

One last word about Annual General Inspections. Most inspectors general do not like to write lengthy reports. They like to find a unit in a "Superior" condition. It's not covered by the regulations, but you will often find IG sections who will conduct battalion or regimental schools on such administrative procedures as unit funds, morning reports, mess records and the like. By doing this, the IG has made inspections easier for himself. If you desire such a school, it is best for the battalion or regimental commander to contact the IG personally. Sometimes the answer will be "no" (because of lack of personnel or time), but there is no harm in trying.

Investigations. With respect to investigations you will seldom have occasion to deal with the IG. These investigations are directed **only** by the commanding officer on whose staff the IG serves, or by higher authority. They concern matters not normally falling within the scope of CID, CIC, Provost Marshal or other agencies. When an IG conducts an investigation it is thorough, impartial, documented with all available exhibits and sworn testimony; and 99 times out of 100 the conclusions and recommendations are sound, supported by the evidence adduced and are approved by the directing authority.

Complaints. And now to the third general responsibility of an IG—complaints. A unit commander is not too enthusiastic when he knows that a member of his command plans to "go to the IG." Perhaps he feels that the visit is a result of his own failure in leadership, or that the complaint will eventually be referred back through channels, with a resultant adverse reaction from his immediate superiors.

Unit commanders should make every effort to take care of their men's complaints themselves. However, there may be times when a commander will intentionally send one of his men to the IG with a complaint or grievance which he has been unable to resolve through normal channels. For example: On one occasion, a soldier claimed that he had been "unlawfully reduced" from sergeant to private while he was with another unit. The personnel officer thought so, too, but over a period of several months he had been unsuccessful in correcting this apparent injustice. This officer referred the man to the IG. The case was finally forwarded by the local IG (through command channels) to the Office of The Inspector General in Washington. The soldier ultimately was restored to his former rank and received back pay running into hundreds of dollars.

Finally, here are a few points about complaints and grievances that are not generally known:

1. Each complainant must be advised by the IG of the final action taken on his or her complaint.

2. Any person making statements to an IG under the guise of a legitimate complaint which, upon inquiry, is proved to be unfounded, untruthful, malicious or slanderous, will be liable to disciplinary action.

3. If a complainant does not believe that the type and kind of redress obtained locally is fair and just, he may seek further redress by writing a letter, outlining all the facts in the case, **direct** to the inspector general of the major command or to The Inspector General, Department of the Army.

Special Assistance. Some IG sections offer another service; they give answers to "How should we do this?" questions. For example, you may encounter a tricky problem in supply procedures. If the appropriate battalion or regimental staff section cannot provide you with an answer, try your IG. Most likely you will be referred to one of the "experts" described above; perhaps to a warrant officer who has done nothing but inspect supply records for years. But don't ask the IG section to research for you when you could just as well do it yourself; and don't be surprised if you get a rebuff in answer to your query, for some IG sections do not provide this service.

Your IG can do much for you and your command. Next time you visit headquarters, why not drop in and get acquainted with the IG section? You are certain to be welcome, and it's probable that you can derive considerable benefit from knowing your Inspector General. At least half of his job lies in helping you.

in the next issue . . .

what makes a leader?

by Maj Gen William F. Dean

General Dean tells in this special Quarterly article the qualities he feels are necessary for a good leader. An outstanding Infantry leader, the General feels strongly about these qualities of leadership because, as he says in the article:

"Today, more than ever, our Armed Forces need leaders of the first order."

modern pioneers

Capt Edward R. Hindman, Engr

The Infantry's Ingenuity Platoon

FOR A SHORT WHILE the major was stumped. The battalion's positions ran along the top of a steep ridge, and his men were using too much time, energy and shoe leather hand-carrying supplies up the slope.

Then the major remembered that in Italy, nine years before, a similar problem had been solved by means of an aerial tramway. He could use the engineers in his own Infantry battalion — men from the Pioneer and Ammunition Platoon — to do the task. He called the platoon over and explained what he wanted done.

The platoon leader assembled a few of his men and went to work. A jeep was driven to a reasonably level spot at the base of the ridge. They jacked up the rear end of the jeep, removed the tire from one of the rear wheels, and then covered the exposed rim with some smooth metal.

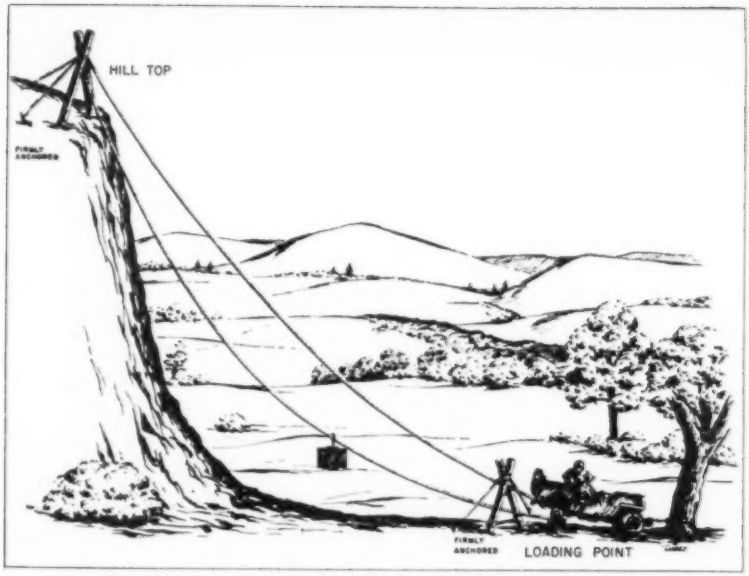
Taking a piece of rope about 10 per cent longer than twice the straight-line distance between the summit of the ridge and the jeep, they ran the rope through pulleys anchored at both the top and bottom of the ridge and once around the rim of the jeep's rear wheel. Then they spliced the ends of the rope together and suspended a hook from the rope.

After a short period of time, the major had a simple aerial tramway. All that had to be done was to start the jeep motor, load some supplies on the tramway, engage the gears, and the supplies moved to the top of the hill with no expenditure of shoe leather or man-power. The jeep had to be tied down, but making slight adjustments was no problem.

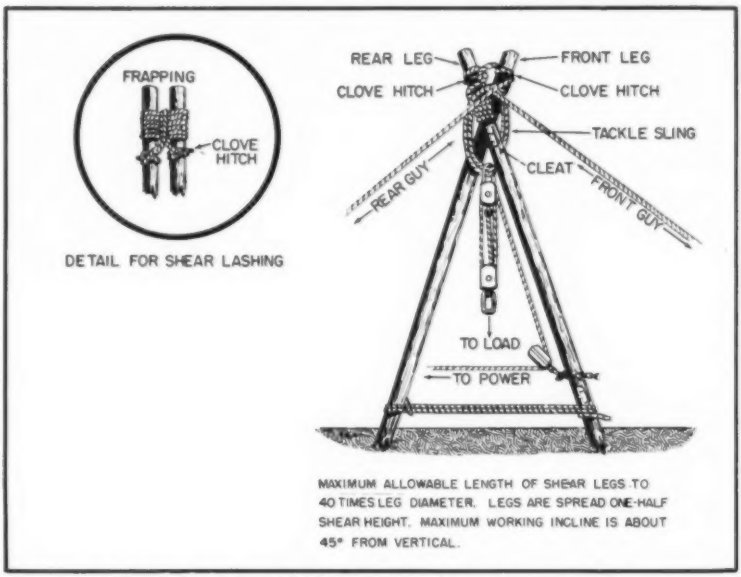
Building tramways is only one of many small-scale but important engineering jobs that have been performed by men of the P & A Platoon, Infantrymen who hold an Engineer MOS. Every Infantry leader should know the capabilities of these modern pioneers. He never can tell when they may be able to help him and his unit.

Constructing a Shears. Here's another situation in which simple engineering can be employed. A unit is moving rapidly when one of its trucks is badly damaged by an enemy mine. The motor, however, still functions properly. Abandoning the vehicle would mean total loss. The motor officer knows that he can use the motor, but he lacks equipment to lift it from the damaged chassis.

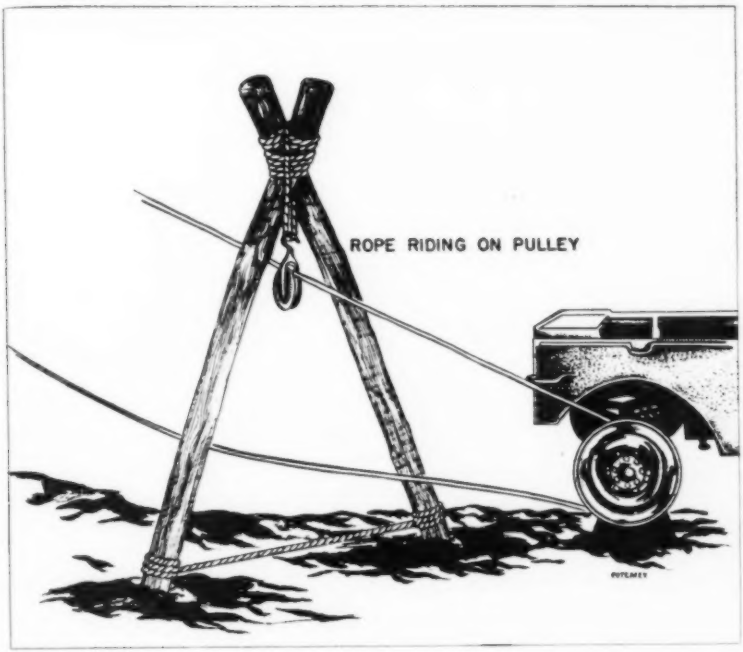
This problem can be solved by making a simple shears to lift the motor. A completed shears must have two legs. They could be round poles, timber planks, or steel bars, depending upon the material at hand. The legs should be long enough to permit the raising of the load to a desired height. But, if timber is used, the length of the



Detailed drawing of lower pulley system of aerial tramway.



A simple shears used to hoist motors from damaged vehicles.



An aerial tramway uses the power of a jeep to hoist supplies to top of hill.

legs should not be greater than about 40 times the diameter.

A quantity of rope is necessary to lash the members together. In addition, we must have rope and two blocks to lift our load. These items are in the Pioneer Equipment Set of the P & A Platoon. To construct our shears we first lay our two timbers together on the ground close to the damaged truck. We place a log under both timbers below the point at which we will lash them both together and separate the legs with a small log. This makes handling and lashing easier.

We fasten one end of a ¾ or 1 inch rope to one leg with a clove hitch and then make about 8 tight turns about both legs. We then make 2 or 3 turns around the lashing between the legs (i.e., wrap the rope around itself between the legs) and secure the rope to the opposite leg from which we started.

Now we dig holes at the place where the legs are to stand. They should be separated by about half the height of the shear. Then we cross the legs and place the untied ends in these holes. To prevent the legs from slipping farther apart at the bottom we connect them with a rope. With another piece of rope

we make two turns over the cross at the top of the shears and tie the rope together to form a sling. For this tie we use a square knot.

We next prepare a set of blocks and place the hook of one over the sling. We should secure this hook and the sling together by winding twine across the mouth of the hook, a process called mousing. We should keep the outer block of this set to one side — secured to one of the legs temporarily — so that it is out of the way and does not become entangled when the shears are lifted.

We need two guy lines for the shears. We fix each one to a leg so that the guy will tend to pull the legs together rather than work against the lashing at the top. We place the butt end of the shear legs in the holes we have dug. Then we raise the shears into position over the engine of our damaged truck and secure the guy lines to large vehicles nearby.

By unbolting the motor from its mounts and fastening lines around it, and by pulling on the rope strung to raise and lower our load, we can lift the motor from the truck. By easing up on one guy line while tightening the other, we can change the angle of incline of the shears so that the motor can be placed in the bed of another truck or lowered onto the motor mounts of another chassis.

You might say, "Sure, tramways and shears will work. So what? How often will I be on a hill which is so difficult to resupply?" Or, "How many times will I have occasion to transfer a motor — a process strictly against proper maintenance procedure — in combat?"

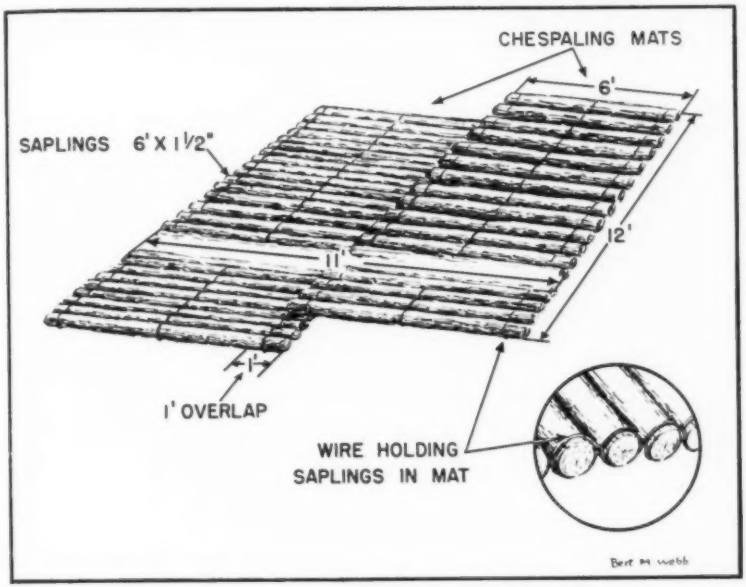
A knowledge of pioneering, like training in first aid, prepares us for infrequent situations in which we lack the time to improvise methods to remedy an undesirable situation.

The Chespaling Mat. Take mud, for instance. We have all had at least one skirmish with this old enemy. How many times did we come out the winner? Certainly not as often as we might have.

Probably the simplest expedient against mud is the chespaling mat. We manufacture this mat by placing small saplings 6 feet long and about 1½ inches in diameter 3 inches apart and wiring them together with chicken wire mesh or smooth wire strands. A mat of this type, 12 feet in length, weighs about 75 pounds and can easily be transported on vehicles for immediate use in spanning stretches of sand or soft spots in the road.

We can construct a chespaling road by laying two mats lengthwise with a 1-foot overlap in the center. This makes an 11-foot wide roadway. As we progress along the road, we add more mats with a 1-foot overlap on the ends.

This road will be reasonably stable and the mat will require few pickets to tie it down except on sharp curves. We should keep the saplings wet to preserve the springiness in the wood and to prevent the individual mats from splitting. It is also possible to make mats by weaving together bamboo rods. These may remain serviceable for 3 to 4 months on firm ground or sand, and may pass up to 1500 ve-



Chespaling mats employed in spanning stretches of sand or soft spots in a road.

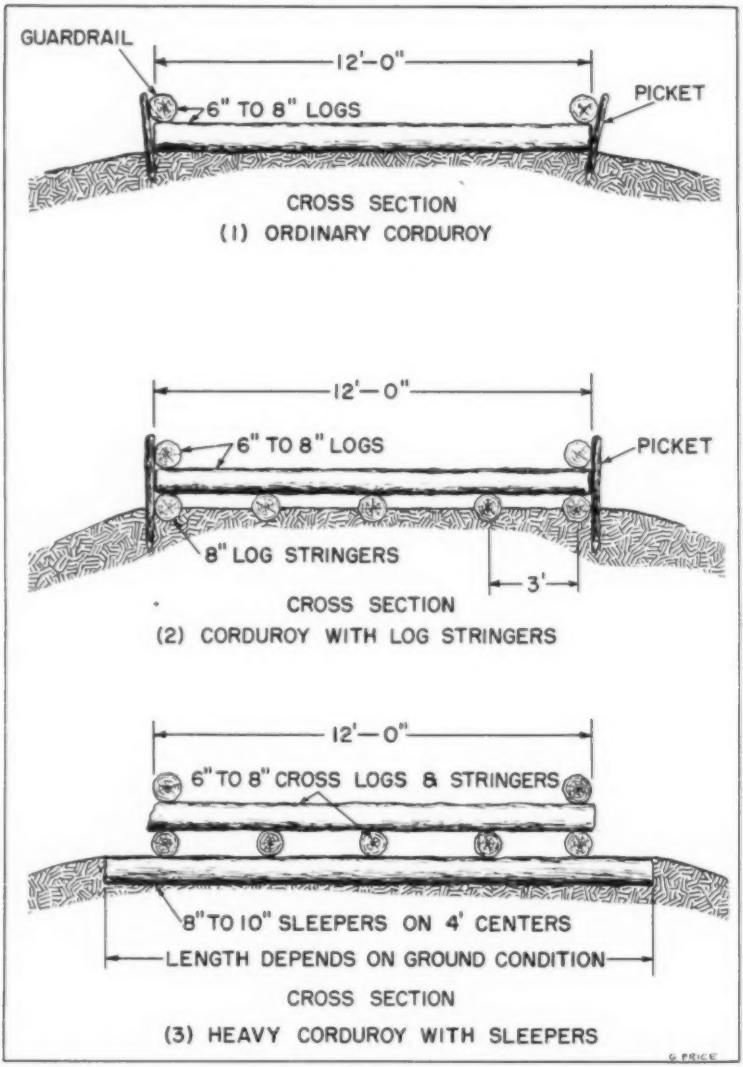
hicles before completely deteriorating.

Corduroy Roads. The corduroy road is the most common expedient used to transport vehicles across marshes, swamps, or mud. It is used by armies throughout the world. Many of the operations by the Germans and Russians in north and central Russia were possible only because of the existence of large networks of corduroy roads, many of which were built and maintained by Infantrymen.

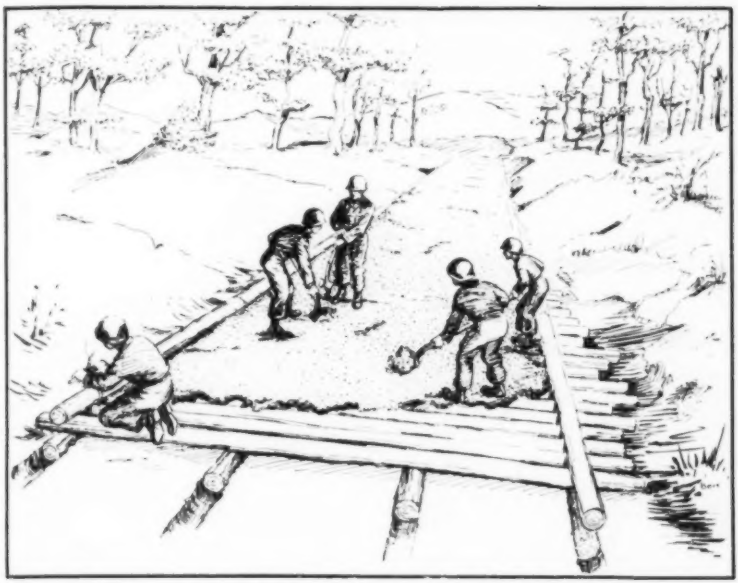
In Korea, particularly in the flat area south of Kumhwa, American engineers had to build corduroy roads to keep the all-important supply vehicles of our fighting units rolling. In World War II in Europe road failures taxed and then broke the capability of Allied engineers to keep up with repair. Entire American regiments became wood cutters to supply timber for the construction of corduroy roads.

A corduroy road is a surface of properly placed logs spanning an area otherwise impassable to vehicular traffic because of the soft or swampy nature of the soil. Thus a supply of timber is an absolute necessity in construction of this expedient.

We can make an ordinary corduroy road by placing a continuous layer of logs, split or round, across the road. To define the edges of the road, to guide vehicle wheels, and



Three types of corduroy road construction used according to terrain conditions.



Tree boughs or straw covered with sand, gravel, cinders or rubble give corduroy roads added wearing surface.

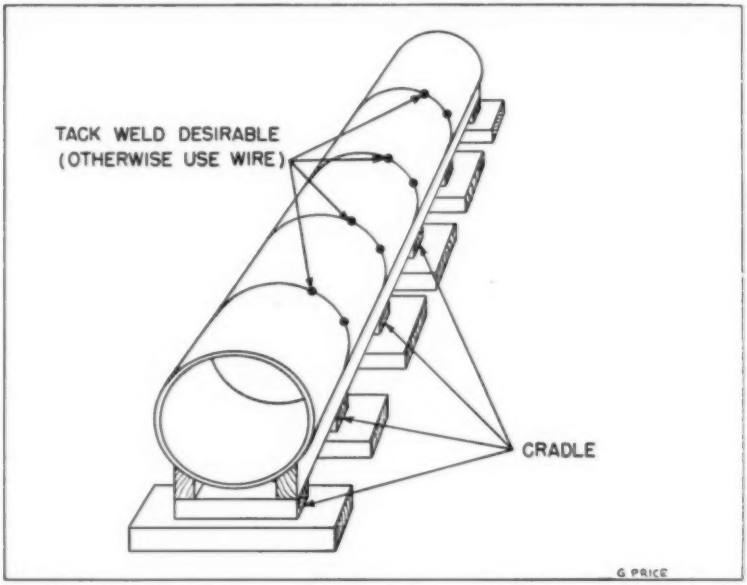
to hold the cross logs in place we fasten guardrails securely to the cross logs with wire or drift pins and to pickets driven into the ground.

Because of poor conditions it sometimes is necessary to provide stringers underneath the top layer of logs. These stringers parallel the roadway. The cross logs should be fastened tightly to these stringers.

In extreme mud conditions, we add even more to our foundation. Sleepers about 8 to 10 inches in diameter are placed with their tops flush with the ground and are perpendicular to the line of the road. They should be spaced about four feet apart. We next add our stringers by driftpinning them to the sleepers and then complete this log road base with the addition of our top cross logs.

For each of the three types we make certain that all logs are bedded evenly and have a firm bearing throughout their full length. Cross logs should be of uniform size and should touch butts and tips alternately. If the logs are large, we fill in the spaces between them with small poles.

As a wearing surface for our corduroy roads we should, if at all possible, spread tree boughs or straw covered with sand, gravel, cinders or rubble, but not dirt, on top of the logs. Without an adequate covering on the logs our road



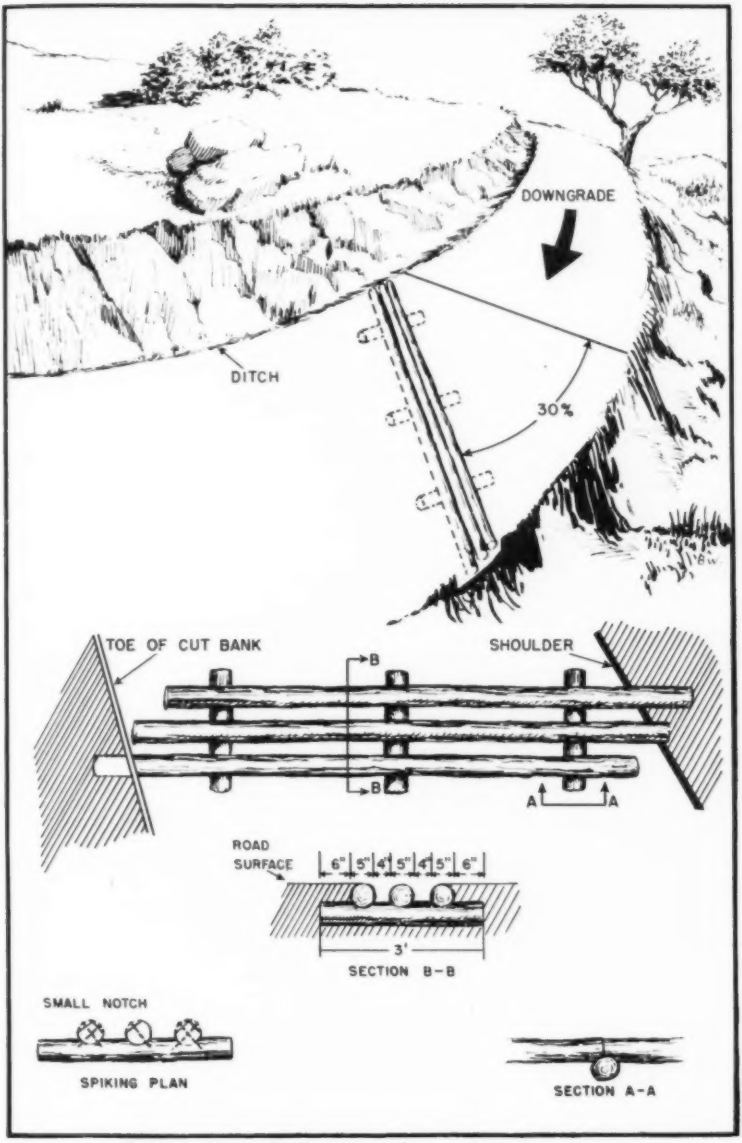
Oil drum culvert.

would soon tear our vehicles apart. Sensitive instruments can be damaged seriously while being transported over the rough surface. We might eliminate much of this roughness by leveling the top layer of logs. However, we would be extremely lucky to find an operational saw mill for this work. To accomplish this leveling by hand might take a prohibitive amount of time.

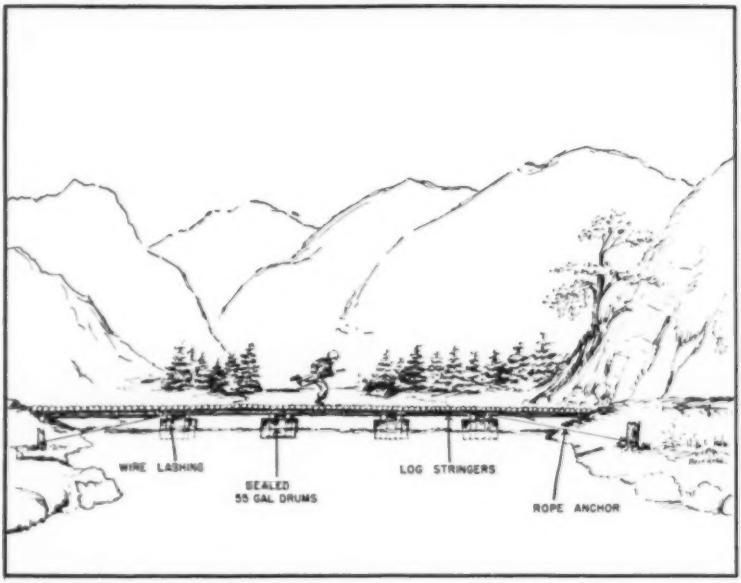
Because of the great amount of work involved in building a corduroy road we probably will be able to make only one lane. Therefore, turnouts should be provided about every 100 yards. Also, close supervision of traffic will be an absolute must. Vehicular traffic moves only about 5 miles per hour while spanning these wooden roads. Commanders should realize this when considering problems involving logistics.

Drainage. It may be possible to prevent a road from deteriorating to such a point that a corduroy surface must be constructed. Proper drainage and close control of transportation can often preserve a road during a muddy season.

We provide good drainage in three ways. First, our roads must have a good crown; water must flow off the surface and not stand in ruts in the road. To prevent ruts we drag the road occasionally and caution drivers not to follow tracks of trucks ahead of them. Many Infantry units in Korea learned the value of road drags and adopted



Construction and placement of open-drain log culvert.



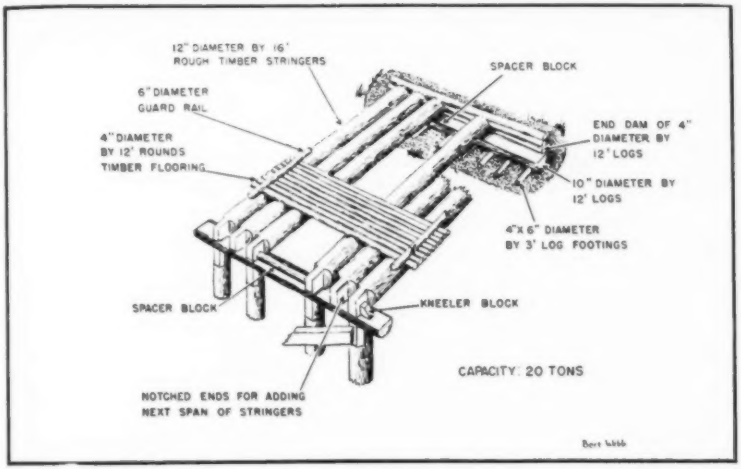
Sealed gasoline drums or empty ammo boxes sealed with canvas covering can support simple foot bridge. Ropes at both ends of bridge keep it anchored in place.

them as almost permanent equipment.

Longitudinal drainage (ditches paralleling the road) receives water drained from the road surface as well as water from under the roadway and prevents water from the surrounding ground from reaching the roadway. During the spring of 1952 Infantrymen of the 25th Division prevented complete loss of roads to their hilltop positions by continued maintenance of ditches alongside their roads while engineers hauled in load after load of rock as surface material.

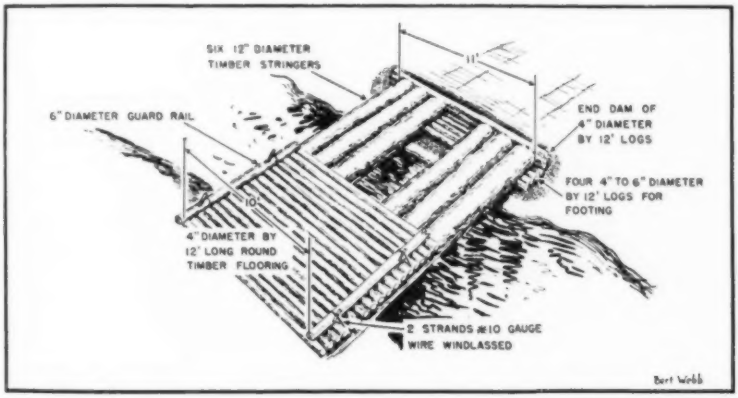
These Infantrymen also installed culverts to provide cross drainage under their roads. Culverts can be constructed of many materials — logs, oil drums, or regular timber. It is necessary to provide at least 12 inches of cover on top of the culvert to prevent collapse under heavy wheel loads. French drains of rock- and gravel-filled ditches across a road are valuable drainage devices except during periods when they might freeze over.

Unit commanders can prevent serious situations when roads are muddy by stopping all but the most essential traffic, by pooling loads from central dispatch points, and by posting men along the road as traffic controllers. Tanks are road killers. We should restrict them to paths paralleling our roads, if possible.

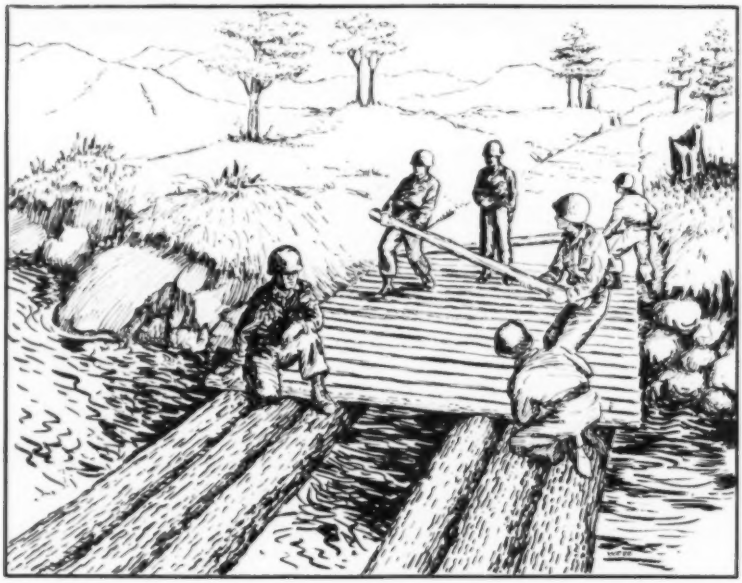

12" DIAMETER BY 16' ROUGH TIMBER STRINGERS
SPACER BLOCK
6" DIAMETER GUARD RAIL
4" DIAMETER BY 12' ROUNDS TIMBER FLOORING
END DAM OF 4" DIAMETER BY 12' LOGS
10" DIAMETER BY 12' LOGS
4"X 6" DIAMETER BY 3' LOG FOOTINGS
SPACER BLOCK
KNEELER BLOCK
CAPACITY: 20 TONS
NOTCHED ENDS FOR ADDING NEXT SPAN OF STRINGERS
Bert Webb

Above sketch illustrates construction of end span of a natural timber stringer bridge.

Bridges. One step beyond mud is water. If we should encounter conditions of high water or streams over which there is no bridge, we can keep our powder and our feet dry by building a simple bridge. Here we might need the services of P & A personnel or engineers who


SIX 12" DIAMETER TIMBER STRINGERS
11'
6" DIAMETER GUARD RAIL
END DAM OF 4" DIAMETER BY 12' LOGS
FOUR 4" TO 6" DIAMETER BY 12' LOGS FOR FOOTING
10'
4" DIAMETER BY 12' LONG ROUND TIMBER FLOORING
2 STRANDS #10 GAUGE WIRE WINDLASSED
Bert Webb

Detailed drawing shows dimensions of simple stringer bridge.



P & A platoon men construct a log stringer bridge across small stream.

could tell us just how many logs of a particular size would be necessary to support a particular load.

To erect a simple foot bridge we can employ sealed 55-gallon drums as floats and erect a walkway above these. If you don't have the drums, use several empty ammo boxes sealed with canvas covering instead.

I have outlined only a few examples of the capabilities of the Infantry's own engineers — the battalion Pioneer and Ammunition Platoon. Since pioneer techniques often depend on ingenuity, it is impossible to list more than a fraction of the work the platoon can do.

Many of these jobs, when necessary, can be done by Infantrymen untrained in engineering, under the supervision of experienced personnel. Thus it is doubly important to understand the work of the pioneers who often single-handedly enable the Infantryman to keep moving.

The American is a pioneer. Our enemies respect us and our friends admire us for our ability to conquer mechanical problems with speed and economy. In war we can put our pioneering instincts to good use to bring about the successful completion of a mission.

Star Unit . . . the 103d Infantry

We salute the 103d Infantry Regimental Combat Team of the Maine National Guard for being a 100 per cent subscriber to THE INFANTRY SCHOOL QUARTERLY.

The 103d's Commander, Col Robert E. Jensen, served during World War II as a company commander with the 43d Infantry Division in the Pacific and later as a staff officer with G4, Department of the Army. This experienced Infantryman writes: "We believe so firmly in the QUARTERLY and its place in our training program that the Headquarters Fund purchases a copy for each of the Infantry units to include a copy for our Engineer Company and Field Artillery Battalion. One of our important tasks as a National Guard Unit is to keep abreast of the latest developments and future thinking. I know of no better way than to read the QUARTERLY. To cite an example, Sergeant Sheridan's article, 'Color Contour,' in the January 1954 issue furnished us with the knowledge of how to prepare 15 terrain maps for a weekend staff school emphasizing terrain evaluation. Each issue seems to surpass the previous and today THE INFANTRY SCHOOL QUARTERLY is first on my list for recommended and approved reading by all my Infantry officers."

Thanks to you, Col Robert E. Jensen, and to the officers and men of the 103d Infantry Regimental Combat Team.

Each issue we salute a unit which subscribes 100 per cent to the *Infantryman's Magazine*. Look for the next Star Unit.

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quarterly sleuths

Did you know that THE QUARTERLY mail clerks are amateur sleuths? They spend a great deal of time each day just tracking down our subscribers. Why don't you help them? When you move or change stations, let us know immediately. This way you'll not miss a single issue of THE INFANTRY SCHOOL QUARTERLY. Send your change of address to: THE INFANTRY SCHOOL QUARTERLY, Book Department, Fort Benning, Georgia.

DRESSED TO Kill

Major Ernest L Bell

CARDED

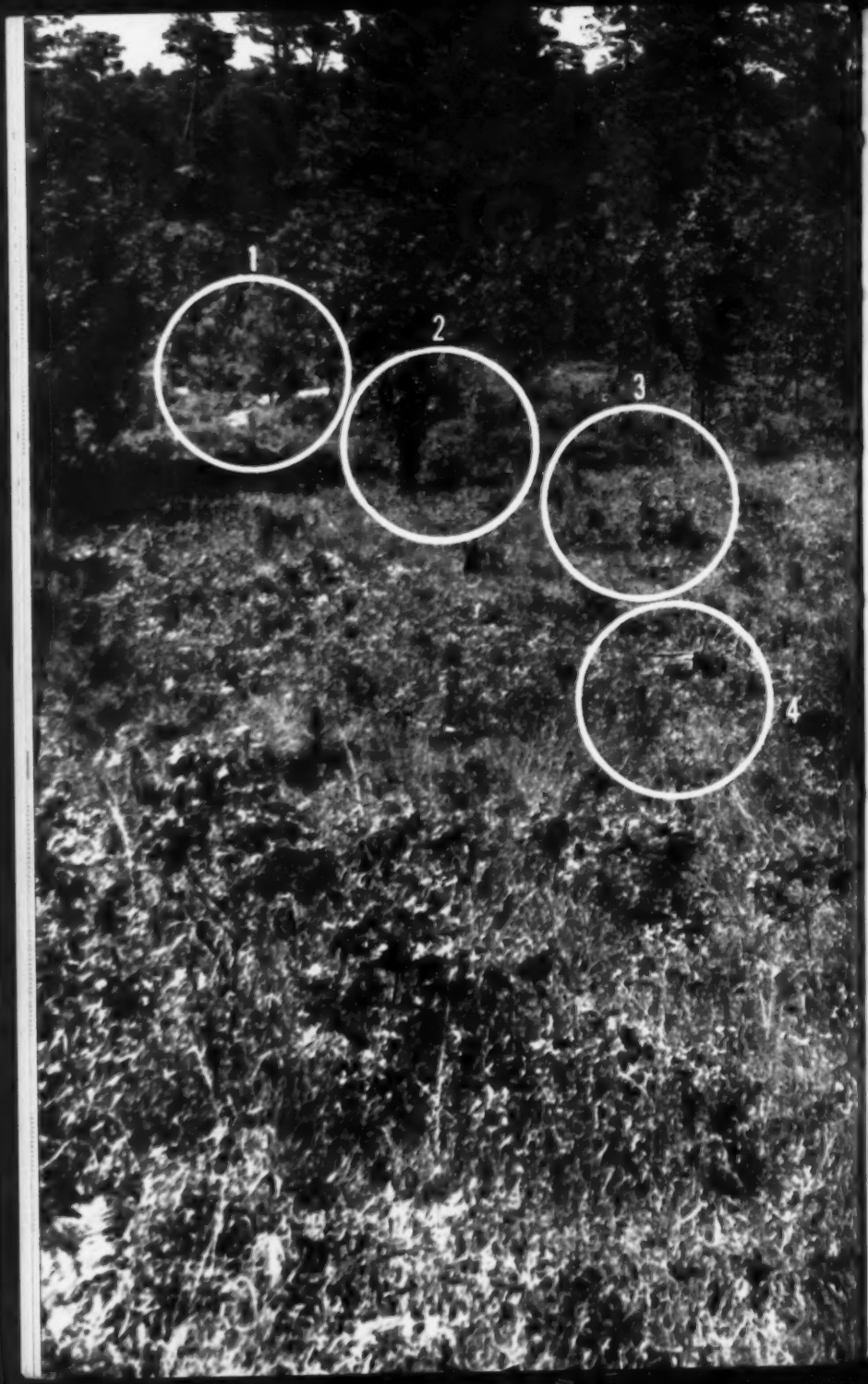
Camouflage may mean the difference between life and death.

THERE'S NO DENYING that the British "Redcoat" was striking in appearance and must have presented a magnificent flash of color when he passed in review. There was only one problem — the redcoated Tommy of the French and Indian War wasn't always on parade. He was more often beating the bushes in search of the French and their Indian allies. I strongly suspect that during this war (and a later one) he often wished that his battle dress was less conspicuous, less a target in the American wilderness, and more suitably colored and tailored to harmonize with his surroundings. Perhaps he even wondered why he wasn't "dressed to kill."

Today's battle dress is a far cry from the brilliant uniforms of those days. Today the uniform is colored to blend, as much as possible, with the soldier's surroundings. Even this, however, isn't quite enough. A soldier must camouflage himself further. The art of camouflage is not new, but is possibly the least understood and least practiced of the military arts.

In this article, we will deal with the day and night camouflage of the individual soldier. To veil or conceal himself effectively from the enemy, the soldier must change the characteristic outline and color of his uniform. At practically no expense and with a little ingenuity, a man can make it almost impossible for the most experienced observer to spot him. The individual usually needs only those materials furnished by nature and always near at hand to camouflage himself or his position.

On the opposite page we see a soldier "dressed to kill." He has prepared himself for a night operation, probably a night combat patrol or a raid. He has darkened his clothing to avoid reflecting light and bound his sleeves and pants with rubber bands to prevent making noise when he moves. You notice that he wears a soft cap instead of the conventional steel helmet. He does this for two reasons: The helmet over the ears distorts sounds. If struck it will give off a characteristic metallic ring. The soft cap muffles the scrape of branches and in no way distorts sound for the wearer. Notice that he has completely darkened all exposed surfaces of skin (we will go into more detail on the camouflage of the face later) and blackened his weapon. This soldier has taken every precaution to make himself invisible to his enemy.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This man has camouflaged his face for daytime operation in a wooded area that contains green and brown vegetation. For this type of camouflage he can use mud, leaves, burned bark, and cork as well as the camouflage stick that is issued. Should he need to camouflage himself in an area where foliage is brown or in a desert region, he avoids the use of green and applies tones that match his surroundings. Notice that camouflage is applied in SPLOTCHES and NOT STRIPES. These splotches must cover the highlighted areas of the face — the chin, cheeks, forehead and nose. A different color should be used to fill in between the main splotches.

This soldier is camouflaged for night operations. He has completely covered his face with a black material. Soot, charred wood, burnt cork or black earth can be used. Regardless of one's natural skin color, camouflage should be applied for night work. Remember that natural skin has an oily texture and reflects light. Black well up into the hair for added protection should the cap be removed or accidently knocked off. These materials are all available to the individual soldier. The corks may be secured from the ends of rifle grenades or flares.

Let's examine camouflage in action. How many soldiers can you see in the photograph on the opposite page? The men have been circled but, because they are well camouflaged, they are difficult to detect. Tactically, they would take advantage of the depressions in the ground to offer further concealment and possibly some cover. The object in leaving them comparatively exposed is to show how effective good camouflage can be. On the following pages are close-ups of these same men.

These two pictures show the soldier found in circle number one. He is in an exposed position and depends entirely upon camouflage to escape detection. His sack suit is made of old burlap bags. This sacking should be colored to match the terrain. To do this the soldier merely rolls in the earth around his position until the suit has assumed a ground shade. Note that he uses the shadow cast by the small pine tree to assist in breaking up his outline. Camouflage suits should be made very full so that the material will not cling to the body but will fall loosely to the ground and alter the characteristic shape of the body.

Note the headpiece. It is sewed in only one place so that the hood falls loosely over the head and shoulders and still allows an opening for the eyes. When in an open area such as this, the soldier should take special care to cover his shoes. Here the long, loose trousers hide them. The face and hands should, of course, be covered with a non-oily material to prevent light being reflected from them.

The two photographs found on this page are close-ups of the man found in position number two of the terrain picture. In the picture above we can see that the entire lower half of his body is exposed to view, yet his sack suit, splashed with green and brown paint, blends so well with his surroundings that he is difficult to see from a distance.

Taking full advantage of the shadows and existing foliage, he assumes a position similar to the trees on either side of him. From a distance he appears to be just another tree stub or tree trunk. (The terrain picture was taken from a distance of approximately 100 yards.)

Of course, none of the positions in the three pictures are tactically sound. The pictures are merely to illustrate the effectiveness of camouflage in a wooded or sparsely wooded area.

The cloth hood he wears, like his uniform, is made of a burlap cloth and as such, contains small perforations through which the soldier can see. In the picture below, he has stepped from behind the foliage so that you can see how his suit is made and how camouflage is applied not only to the suit but to his face as well.

For daylight he uses, in this particular case, green and loam to match the colors of his suit and those of the terrain. If the terrain were burned over, black would be used; or in sandy areas a lighter color (opposite page). The darker color is used in BIG SPLOTCHES over the face while the loam is used to fill in between the green. The loam color will not reflect light but merely acts as a light absorber.

The pictures shown here are close-ups of the man in circle number three. His suit consists of a pair of issue coveralls (two-piece fatigues would do just as well) splashed with green and brown paint. It is a substitute for the old issue camouflage suit.

The buttons on the suit should be covered either with dark paint or mud to prevent any reflection of light. The steel helmet with the helmet liner is used as headgear. A rubber band (or rope) is placed as low as possible on the helmet to hold twigs and leaves picked from the surrounding area. This alters the outline of the helmet and blends with the surroundings. There are two precautions to follow however: Don't overdo the vegetation, and be sure the vegetation is extended down around the sides of the helmet. The twigs and grass that extend below the rim of the helmet blend the helmet into the camouflage suit and break the sharp shadow cast by the rim itself.

As in the other examples, the facial camouflage should match the color of the suit.

The soldier on this page is shown in position four of the terrain picture. His sack suit is splashed but NOT covered with black paint. The unpainted areas blend with the expanse it would be ridiculous to stand erect no matter how well camouflaged you might be.

Avoid being too enthusiastic. Over-camouflage can be as disas-

trous as being under-camouflaged. Natural materials such as leaves and grass must be fresh or seasonably correct.

The sniper, the observer, the man in a foxhole or gun position — all need camouflage. The soldier on a patrol, a raid, or an attack needs to disguise himself to prevent detection.

There's an ever present need in combat for camouflage. There's no place in modern day combat for a soldier even 50 per cent as "obvious as the Redcoat" of another day. Today's soldier must be "dressed to kill."

light areas of the ground and grass. Camouflage of this type is excellent for use in burned-out areas. It is very effective when used at night. However, at night an all-black suit is preferred. To camouflage the face properly for burned-out areas, use burned wood and smear the hands and face well. Charcoal, burned cork, or the issued camouflage sticks are all good materials to use.

The example shown should be varied to suit different situations and terrain. Camouflaged clothing, however, is not the complete answer to staying inconspicuous. Part of the job is knowing how to place oneself. For instance, on a treeless

Pictures by Mr. R. J. Ray, Jr., Signal Photo Lab.

Meet the authors

Lt William Strobridge, author of "Back Door Attack" (page 7), has written for the QUARTERLY before. He enlisted in the Army in '47, received his basic training at Ford Ord, California, and was assigned to the I&R platoon, 35th Infantry in Japan. He arrived in Korea in November 1950, as a squad leader with the I&R platoon of the 7th Infantry. In early '51, he was awarded a battlefield commission. In October of the same year he was wounded and has been hospitalized ever since. Lt Strobridge is presently at Murphy Army Hospital, Waltham, Massachusetts, but we're glad to report is now up and "doing fine."

Lt Arthur R. Underwood, Jr., author of "Command the Trigger," on page 11, was commissioned via the U.S. Military Academy in June 1949. The next year he attended the Basic Company Officer's Course at TIS, and upon graduation was sent to Puerto Rico. In August 1950 he went to Korea with the 65th Infantry where he served as a platoon leader and company commander.

He returned to the states in February 1952 and became a tactical officer in the Officer Candidate Regiment at Benning. In June 1953 he was assigned to his present position as an instructor in the small arms committee at TIS.

Capt Bickford E. Sawyer, Jr., is one of our most frequent contributors. His article "Encircled," co-authored with Capt James T. Root, on page 20, is his fourth in recent months.

A 1945 graduate of the U.S. Military Academy, he served with the 23rd Infantry Regiment in Korea as a platoon leader and company commander. Upon graduation from the 1951-52 Infantry Officer Advanced Course at Benning, he was assigned to the Training Literature Section at TIS.

Capt James T. Root was commissioned in 1945 at the U.S. Military Academy. Following his graduation he served two years in the Philippines with the 86th Division.

A 1951 graduate of the Infantry Officers Advanced Course and the Paratrooper Jump School at Fort Benning, he served in Korea with the 5th RCT as a Company Commander, Battalion and Regimental S3.

Upon his return to the States in February 1953 he was assigned as an instructor in the Operations Committee of the Staff Department at TIS.

Captain Alfred Phillips, co-author with Lt Pieper on "Machine Gun Mission" (page 32), is a regular QUARTERLY contributor. After graduating from the Infantry OCS in 1944, he served as a platoon leader

and rifle company commander with the 86th Division in both the European and Pacific theaters in WW II. Until his recent assignment to the Far East Command, he was an instructor at The Infantry School. He promises to continue writing for the QUARTERLY.

Lt Fredrick A. Pieper, co-author of "Machine Gun Mission" (page 32), was a non-commissioned officer in WW II with the 1st Regiment of the 26th Division in Europe. Lt Pieper served with the 31st Regiment, 7th Division in Korea as a platoon leader and later as a heavy weapons company commander. After his return to the States in August 1951, he was assigned to The Infantry School. He is presently an instructor in the Tactical Department.

Lt Col Edward J. Barta, author of "It Takes Imagination," on page 42, served in the Pacific Theater during World War II with the 158th Infantry Regiment. He participated in the campaigns of the Northern Solomons and New Britain as a platoon leader and company commander. He left the service in 1946 but returned in 1948 to join the 10th Division at Fort Riley, Kan.

A 1949 graduate of the Associate Advanced Course at TIS he served with the 24th Division's G3 Section in Korea. In December 1950 he became the Regimental Advisor to the 12th Regiment of the 1st ROK Division.

Upon his return to the States in July 1951, he was assigned to his present job as an instructor in the Training Committee of the Staff Department at TIS.

Captain Douglas A. Huff, whose concern with "paper work" gave rise to his article "Paper Blockade" (page 50), is a 1945 graduate of Infantry OCS. From graduation until '48 he served with the 1st Div in Germany. In '49 he attended "jump school" here at Benning and later joined the 82d Abn Div. He has been a platoon leader, a company exec and a company commander. "These are three good reasons," he told us, "for my interest in eliminating unnecessary paper work."

Maj Candler R. Wiselogle, author of "Cold Weather Fighters," on page 56, received his commission upon graduation from the University of Mississippi in 1942 and came on active duty in June of that year.

He served in Europe during World War II as a platoon leader and company commander with the 331st Infantry of the 83rd Division.

Upon graduation from the Infantry Officer's Advanced Course in 1951, he was assigned to TIS where he is an Instructor in the attack group of the Tactical Department.

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"The Case of the U.S. Sniper," on page 65, is **CWO William F. Odom's** first contribution to the Quarterly. He enlisted in the service in 1940 and served in the 9th Infantry Division at Fort Bragg. After completing the Airborne School training he joined the 101st Airborne Division and jumped in Normandy and Holland during World War II.

In 1945 he was separated from the service but was back the next year as an enlisted instructor in the Airborne Department at Fort Benning. In September 1950 he received his warrant and became an instructor at TIS in the technique of rifle fire, sniping and night vision.

Col Frank T. Mildren, co-author of "Fire Support Planning" with Major Bolling, also wrote "What Has Korea Taught Us?" in the October 1953 Quarterly.

Career-wise he has been a platoon leader, regimental CO and staff officer. In Korea he served as G3 of X Corps, CO of the 38th Infantry, 2d Division, and as senior aide to Gen James A. Van Fleet, former 8th Army Commander. A 1939 graduate of the U.S. Military Academy, he is now the Chief of the Attack Group of the Tactical Department at TIS.

Maj Alexander R. Bolling, Jr., co-author of "Fire Support Planning," on page 74, is a 1943 graduate of the U.S. Military Academy. He served in Europe during World War II and spent 67 days as a prisoner of the Germans. We are sure you will find this article as enlightening, tactically, as we did. He is presently an Instructor and Executive Officer of the Attack Group of the Tactical Department at TIS.

Lt Col Arlo W. Mitchell, author of "The IG and You," page 84, is well qualified to write on this subject. During World War II he served in the Leyte and Mindanao operations of the Pacific Theater as Assistant IG of X Corps. Following the war, he became Assistant IG and later IG of the 5th Division at Fort Campbell, Ky. In 1946 he was appointed IG of the 3rd Division.

In 1947 he was integrated into the regular army and attended the Advanced Course at Ft. Benning. The following three years he served as Assistant IG of the U.S. Forces in Austria.

A 1951 graduate of the Command and General Staff College, he is presently Chief of the Publications and Visual Aids Office at TIS.

Capt Edward R. Hindman, whose "Modern Pioneers" is on page 88, served in Korea with the 93rd Engineer Construction Battalion and later with the 65th Engineer Combat Battalion (25th Division). This is his second article for the QUARTERLY. He wrote "Forgotten Killers" for the April 1953 issue. A 1949 graduate of the U. S. Military Academy, he presently is assigned to The Infantry School as an instructor in the Associate Arms Group of the Tactical Department.

Major Ernest L. Bell's article, "Dressed to Kill" (page 102), was adopted by the staff as a "pet project" because it offers some real know-how to the Infantryman in the field. Major Bell, a 1942 graduate of the Infantry OCS, served with the 65th Division in the Rhineland and Central European campaigns in WW II. He is now an instructor in the Tactical Department, The Infantry School.

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